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Operations and Services
Tropical Cyclone Weather Services Program, NWSPD 10-6

TROPICAL CYCLONE PRODUCTS

NOTICE: This publication is available at: http://www.nws.noaa.gov/directives/.

OPR: OS21 (S. Kiser) **Certified by:** OS21 (T. Pierce)
Type of Issuance: Emergency.

SUMMARY OF REVISIONS: This directive supercedes NWSI 10-601, dated May 27, 2005.

Section 6.9.2.2. Section rewritten for clarification and to correct when HPC ceases issuing TCP products.

Section 7.3.3.3. Section rewritten for clarification.

Signed by Dennis H. McCarthy August 17, 2005
Dennis H. McCarthy Date
Director, Office of Climate,
Water, and Weather Services

Tropical Cyclone Products

1. Tropical Cyclone Forecast and Advisory Products.

NOTE: Refer to appendix A for tropical cyclone product examples.

1.1 Tropical Cyclone Public Advisories (TCP). The TCP is the primary tropical cyclone information product issued to the public. The National Hurricane Center (NHC), as a part of the Tropical Prediction Center (TPC); the Central Pacific Hurricane Center (CPHC); and Weather Forecast Office (WFO) Tiyan, Guam, will issue TCPs.

1.1.1 Mission Connection. The TCP is the primary tropical cyclone product issued to the public. The TCP provides critical tropical cyclone watch, warning, and forecast information for the protection of life and property.

1.1.2 Issuance Guidelines.

1.1.2.1 Creation Software. Automated Tropical Cyclone Forecast (ATCF) system and the Advanced Weather Interactive Processing System (AWIPS).

1.1.2.2 Issuance Criteria. In the Atlantic and central Pacific, NHC and CPHC will issue TCPs
for all tropical cyclones respectively. In the eastern Pacific, NHC will issue public advisories when watches or warnings are required, or the tropical cyclone is otherwise expected to impact nearby land areas. In the western Pacific, WFO Guam will issue public advisories for all tropical cyclones expected to affect land within 48 hours. Issue the initial advisory when data confirm a tropical cyclone has developed. The title of the advisory will depend upon the intensity of the tropical cyclone as listed below.

a. A tropical depression advisory refers to a tropical cyclone with 1-minute sustained winds up to 33 knots (38 mph).

b. A tropical storm advisory will refer to tropical cyclones with 1-minute sustained surface winds 34 to 63 knots (39 to 73 mph).

c. A hurricane/typhoon advisory will refer to tropical cyclones with winds 64 knots (74 mph) or greater.

Public advisories will discontinue when the tropical cyclone:

a. Ceases to be a tropical cyclone, e.g. becomes extratropical, a remnant low, or dissipates, or

b. Is centered over land, is below tropical storm strength, is not forecast to move back over water as a tropical cyclone, and no coastal tropical cyclone watches or warnings are in effect.

1.1.2.3 Issuance Time.

a. NHC and CPHC will issue Public Advisories at 0300, 0900, 1500, and 2100 Coordinated Universal Time (UTC) with valid position times corresponding to the advisory time. WFO Guam issuance times are 0400, 1000, 1600, and 2200 UTC.

b. Issue Intermediate Public Advisories on a 2- to 3-hourly interval between scheduled advisories (see times of issuance below). Issue 3-hourly intermediate advisories whenever a tropical storm or hurricane watch/warning is in effect. Issue 2-hourly intermediates whenever tropical storm or hurricane warnings are in effect and coastal radars are able to provide responsible Tropical Cyclone Centers with a reliable hourly center position. For clarity, when issuing intermediate public advisories, include a statement at the end of the scheduled public advisory informing users when an intermediate advisory will be issued, i.e., "AN INTERMEDIATE ADVISORY WILL BE ISSUED BY THE CENTRAL PACIFIC HURRICANE CENTER AT 2 PM HST FOLLOWED BY THE NEXT COMPLETE ADVISORY ISSUANCE AT 5 PM HST."

Three hourly issuances...TPC/CPHC at 0000, 0600, 1200, and 1800 UTC. WFO Guam at 0100, 0700, 1300, and 1900 UTC.

Two hourly issuances...TPC/CPHC at 2300, 0100, 0500, 0700, 1100, 1300, 1700, and 1900 UTC. WFO Guam at 0000, 0200, 0600, 0800, 1200, 1400, 1800, and 2000 UTC.

Do not use intermediate advisories to issue tropical cyclone watches or warnings. They can be used to clear all, or parts of, a watch or warning area. Content should be similar to the scheduled advisory.

1.1.2.4 Valid Time. TCPs are valid from the time of issuance until the next scheduled issuance or update.

1.1.2.5 Product Expiration Time. Generally 6 hours after the issuance time and should coincide with the next expected update or when the event is forecast to end.

1.1.3 Technical Description. TCPs will follow the format and content described in this section.

1.1.3.1 Universal Geographic Code (UGC) Type. Not applicable.

1.1.3.2 Mass News Disseminator (MND) Header. The TCP MND header block product type line is "(TROPICAL CYCLONE TYPE) (NAME) ADVISORY NUMBER XX."

1.1.3.3 Content. Advisories can begin with a lead statement or headline to emphasize significant aspects of the tropical cyclone. Advisories will list watches and warnings for hurricane/typhoon and tropical storm conditions immediately after the headline. Separate the headline and watch/warning section from the rest of the advisory. Include information in the rest

of the advisory in descending order of importance or urgency. At the end of the advisory, repeat the tropical cyclone position, maximum winds, minimum pressure, present movement, and provide forecast movement (if change is indicated). Provide the time and office responsible for the next advisory along with new message headers if the tropical cyclone is passed to another Center. For a tropical cyclone moving east to west across the international dateline, CPHC will insert at the end of their last advisory/forecast, 'THIS IS THE LAST BULLETIN ISSUED BY THE CENTRAL PACIFIC HURRICANE CENTER. THE NEXT BULLETIN WILL BE ISSUED BY THE RSMC TOKYO. FOR U.S. INTERESTS, SEE THE PUBLIC ADVISORIES ISSUED BY THE U.S. NWS FORECAST OFFICE GUAM AND DOD WARNINGS ISSUED BY THE JOINT TYPHOON WARNING CENTER. Finally, include the forecaster's name at the end of the message.

Do not use the term "SMALL CRAFT ADVISORY." Instead, use the phrase "SMALL CRAFT SHOULD STAY IN PORT." This is considered equivalent or even stronger when used in connection with tropical or subtropical cyclones. When discontinuing tropical cyclone warnings for a given coastal section where small craft advisories are to remain in effect, use the following statement: "SMALL CRAFT ADVISORIES REMAIN IN EFFECT FOR PORTIONS OF THE COAST. SEE LOCAL NWS COASTAL FORECASTS FOR CONDITIONS IN YOUR AREA." The NHC/CPHC advisory discontinuing tropical cyclone warnings and the following NHC/CPHC advisory, if one is issued, should contain this statement.

a. Units. Times in advisories should be local time of the affected area; however, local time and UTC should be used when noting the storm's location. All advisories will use statute miles and statute miles per hour. The Tropical Cyclone Center (TPC and CPHC) and WFO Guam, at their discretion, may use nautical miles/knots in parentheses immediately following statute miles/mph. Advisories should include the metric units of kilometers and kilometers per hour following the equivalent English units except when the United States is the only country threatened.

b. Tropical Storm/Hurricane/typhoon Watches and Warnings. NHC, CPHC and WFO Guam, will issue tropical storm/hurricane/typhoon watches if tropical storm/hurricane/typhoon conditions are possible over land areas within 36 hours, except 48 hours in the western north Pacific. Do not issue tropical storm watches if the tropical cyclone is forecast to reach hurricane/typhoon intensity within the watch period.

Issue tropical storm/hurricane/typhoon warnings when tropical storm/hurricane/typhoon conditions along the coast are expected within 24 hours. Issue tropical storm warnings at the discretion of the hurricane specialist when gale warnings, not related to the pending tropical storm, are already in place. Tropical storm warnings may be issued on either side of a hurricane/typhoon warning area.

Advisories will list all tropical cyclone watches and warnings in effect. The first advisory in which watches or warnings are mentioned should give the effective time of the watch or warning, except when it is being issued by other countries and the time is not known.

Except for tropical storms and hurricanes/typhoons forming close to land, a watch should precede a warning. Once a watch is in effect, it should either be replaced by a warning or remain in effect until the threat of the tropical cyclone conditions has passed. A hurricane/typhoon watch and a tropical storm warning can be in effect for the same section of coast at the same time. It is not advantageous to step down warnings for tropical cyclones. This approach would cause confusion for the media and public, and this is especially true for tropical cyclones whose tracks parallel the coast.

c. Location and Movement. All advisories will include the location of the center of the tropical cyclone by its latitude and longitude, and distance and direction from a well known point, preferably downstream from the tropical cyclone. If the forecaster is unsure of the exact location of a depression, the position may be given as within 50, 75, etc., miles of a map coordinate. When the center of the tropical cyclone is over land, give its position referencing the state or country in which it is located and in respect to some well known city, if appropriate.

Movement forecasts apply to the tropical cyclone's center. Give the present movement to 16 points of the compass if possible. Include a 24-hour forecast of movement in terms of a continuance or departure from the present movement and speed. This may be reduced to a 12-hour forecast. Uncertainties in either the tropical cyclone's location or movement should be explained in the advisory. An outlook beyond 24 hours (out to 72 hours when appropriate) may be included in the text of the advisory.

Make landfall forecasts of the center with caution to avoid giving the public any false sense of security. Use other forecast parameters to describe the center's landfall. When a threat to land exists, stress the tropical cyclone's effects extend well beyond the small area near the tropical cyclone's center.

d. Wind and Intensity. Give maximum observed 1-minute sustained surface wind speed rounded to the nearest 5 mph. During landfall threats, specific gust values and phrases like “briefly higher in squalls” may be used. Also include the area (or radius) of both tropical and hurricane/typhoon force winds. When warnings are in effect, give the expected times of onset of tropical storm and hurricane/typhoon force winds along the coast in general terms, such as “this afternoon” or “tonight.”

Provide intensity forecasts for 12 hours only stated as an “increase,” “decrease,” or “no change” from the present intensity. Where appropriate, use the Saffir/Simpson Hurricane Scale (SSHS) in public releases.

e. Pressure. Provide central pressure values in millibars and inches as determined by available data.

f. Storm Surge/Shoreline. Storm surge forecasts should highlight areas along the coast and within bays that are likely to experience dangerous flooding from storm surge. When

possible, timing should be estimated or should be referenced to storm position, e.g. "as the hurricane is making landfall," or "as strong winds turn to the southwest." Wave information should be included for the outer coastline (all coastlines for Pacific Region locations) when possible. Storm surge heights should be indicated as values above the normal, predicted astronomical tide level. Note should be made of abnormally high or low astronomical tides, and their times of occurrence. On a case by case basis, NHC will discuss with the affected WFOs on the hurricane hotline coordination call whether rip currents and/or dangerous surf will be referenced.

g. Rainfall. Provide 1-2 sentences regarding Quantitative Precipitation Forecasts (QPF). Identify the geographical area(s) at greatest risk. Include an estimate of the range of area-average amounts expected within the specified area(s), as well as an upper bound on the maximum spot values expected. In general, storm-total values will be used.

h. Inland Impacts. Highlight the inland impacts of tropical cyclones in advisories. This includes the threat of strong winds, heavy rainfall, flooding, and tornadoes. Include the extent and magnitude of inland winds as well as anticipated rainfall amounts and potential for flooding and tornadoes. Mention tornado and flood watches as appropriate. Mention actual occurrences of tornadoes, floods, and high winds adding a note of urgency and supporting warnings and statements from WFOs.

Action statements in advisories should be general with references to local office products for specific recommended actions. To further publicize local products, when a tropical cyclone threatens a land area, include the following statement in the TCP: "For storm information specific to your area...please monitor products issued by your local weather office." If HPC is going to issue public advisories, the last NHC TCP should carry a statement similar to..."THIS IS THE LAST PUBLIC ADVISORY ISSUED BY THE NATIONAL HURRICANE CENTER ON ALLISON. FUTURE INFORMATION ON THIS SYSTEM CAN BE FOUND IN PUBLIC ADVISORIES ISSUED BY THE HYDROMETEOROLOGICAL PREDICTION CENTER...UNDER AWIPS HEADER TCPAT(1-5) AND WMO HEADER WTNT(31-35) KWNH...BEGINNING AT 10 AM CDT."

1.1.3.4 Format. This product is available in industry standard encoding and languages, and may include, but not limited to, American Standard Code for Information Interchange (ASCII), Extensible Markup Language (XML), Wireless Markup Language (WML) and HyperText Markup Language (HMTL).

```
WTaaii CCCC DDHHMM
TCPxxx

(TROPICAL CYCLONE TYPE) (NAME) ADVISORY NUMBER XX.
(ISSUING OFFICE CITY STATE)
time am/pm time_zone day mon DD YYYY

...HEADLINE...

TEXT


$$

FORECASTER NAME
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Figure 1. Tropical Cyclone Public Advisories Format

1.2 Tropical Cyclone Forecasts/Advisories (TCM). NHC and CPHC will prepare TCMs for all tropical cyclones within their area of responsibility.

1.2.1 Mission Connection. The TCM provides critical tropical cyclone watch, warning, and forecast information for the protection of life and property.

1.2.2 Issuance Guidelines.

1.2.2.1 Creation Software. ATCF system.

1.2.2.2 Issuance Criteria. TCM is issued any time a routine or special TCP product is issued.

1.2.2.3 Issuance Times. Issue advisories at 0300, 0900, 1500, and 2100 UTC.

1.2.2.4 Valid Time. TCMs are valid from the time of issuance until the next scheduled issuance or update.

1.2.2.5 Product Expiration Time. Generally 6 hours after the issuance time and should coincide with the next expected update or when the event is forecast to end.

1.2.3 Technical Description. TCMs will follow the format and content described in this section.

1.2.3.1 UGC Type. Not applicable.

1.2.3.2. Mass News Disseminator Header. The TCM MND header block product type line is "(TROPICAL CYCLONE TYPE) (NAME) FORECAST/ADVISORY NUMBER XX

1.2.3.3 Content. TCMs will contain appropriate information as shown in appendix A in a standard format. All forecast advisories will contain 12-, 24-, 36-, 48-, 72-, 96- and 120 hour forecast positions and 1-minute surface wind speeds (intensity) rounded to the nearest 5 knots. Also they will include 34- and 50-knot (four-quadrant) wind speed radii through 72 hours and 64-knot wind speed radii at 12-, 24-, and 36-hours. No position or wind speed will accompany the forecast of "dissipated." A standard statement indicating the uncertainty associated with the 96- and 120-hour forecast positions and forecast wind speeds will precede those two forecasts.

NOTE: As part of the header, append a code string at the end of the line "ISSUING OFFICE CITY STATE" (Example: NWS TPC/NATIONAL HURRICANE CENTER MIAMI FL)

Format:
where: (BS) is the basin (AL, EP or CP)
where: (NO) is the tropical cyclone number (01, 02, 03,...99)
where: (YR) is the last two digits of the year.

1.2.3.4 Format.

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WTaa2i CCCC DDHHMM
TCMxxx

(TROPICAL CYCLONE TYPE) (NAME) FORECAST/ADVISORY NUMBER XX.
(ISSUING OFFICE) CITY STATE BSNOYR
time am/pm time_zone day mon DD YYYY

TEXT


$$

FORECASTER NAME
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Figure 2. Tropical Cyclone Forecast/Advisories Format

1.3 Tropical Cyclone Discussions (TCD). NHC and CPHC issue TCDs to explain forecasters' reasoning behind analysis and forecast of the tropical cyclone.

1.3.1 Mission Connection. The TCD is a primary tropical cyclone product explaining forecasters' reasoning behind analysis and the forecast for a tropical cyclone. It also provides coordinated 12-, 24-, 36-, 48-, 72-, 96-, and 120-hour tropical cyclone forecast positions and maximum sustained wind speed forecasts; other meteorological decisions; and plans for watches and warnings.

1.3.2 Issuance Guidelines

1.3.2.1 Creation Software. ATCF system.

1.3.2.2 Issuance Criteria. TCD is issued any time a routine or special TCP product is issued.

1.3.2.3 Issuance Times. Issue advisories at 0300, 0900, 1500, and 2100 UTC and with all special advisories

1.3.2.4 Valid Time. TCDs are valid from the time of issuance until the next scheduled issuance or update.

1.3.2.5 Product Expiration Time. Generally 6 hours after the issuance time and should coincide with the next expected update or when the event is forecast to end.

1.3.3 Technical Description. TCDs will follow the format and content described in this section.

1.3.3.1 UGC Type. Not applicable.

1.3.3.2. Mass News Disseminator Header. The TCD MND header block product type line is "(TROPICAL CYCLONE TYPE) (NAME) DISCUSSION NUMBER XX

1.3.3.3 Content. Discussions include prognostic reasoning; objective techniques employed; NHC, CPHC, and Hydrometeorological Prediction Center (HPC) guidance used; coordinated 12-, 24-, 36-, 48-, 72-, 96- and 120-hour tropical cyclone forecast points. No position or wind speed will accompany the forecast of "dissipated." Also provide maximum sustained wind speed forecasts for each forecast point; other meteorological decisions; and plans for watches and warnings.

1.3.3.4 Format.

```
WTaa4i CCCC DDHHMM
TCDxxx

(TROPICAL CYCLONE TYPE) (NAME) DISCUSSION NUMBER XX.
ISSUING OFFICE CITY STATE
time am/pm time_zone day mon DD YYYY

TEXT

$$

FORECASTER NAME
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Figure 3. Tropical Cyclone Discussion Format

1.4 Tropical Cyclone Updates (TCU).

1.4.1 Mission Connection. The TCU is an event-driven product which provides users with timely, succinct information on significant changes to tropical cyclone conditions.

1.4.2 Issuance Guidelines.

1.4.2.1 Creation Software. ATCF system.

1.4.2.2 Issuance Criteria. Issued by NHC and CPHC in lieu of or preceding special advisories to inform users of unexpected changes in a tropical cyclone, or post/cancel watches and warnings.

1.4.2.3 Issuance Times. The TCUs are issued on an event-driven basis.

1.4.2.4 Valid Time. TCUs are valid at time of issuance until a subsequent TCU is issued or until the next scheduled or special TCP.

1.4.2.5 Product Expiration Time. Not applicable.

1.4.3 Technical Description. TCUs will follow the format and content described in this section.

1.4.3.1 UGC Type. Not applicable.

1.4.3.2. Mass News Disseminator Header. The TCU MND header block product type line is "(TROPICAL CYCLONE TYPE) (NAME) UPDATE"

1.4.3.3 Content. The TCU is a brief alphanumeric text product using a block paragraph format. CPHC and NHC base the information contained within the TCU on latest available data from all sources with special reliance on aircraft reconnaissance and satellite data.

1.4.3.4 Format.

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WTaa6i CCCC DDHHMM
TCUxxx

(TROPICAL CYCLONE TYPE) (NAME) UPDATE
ISSUING OFFICE CITY STATE
time am/pm time_zone day mon DD YYYY

TEXT
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Figure 4. Tropical Cyclone Update Format

1.5 Tropical Cyclone Position Estimates (TCE).

1.5.1 Mission Connection. This product ensures a continuous flow of information regarding the location of a tropical cyclone when it nears the coast and thus provides up to date location information to emergency managers and other public officials. The information also provides exact center locations helping the tropical cyclone center forecasters issue timely and accurate products.

1.5.2 Issuance Guidelines

1.5.2.1 Creation Software. ATCF system and AWIPS.

1.5.2.2 Issuance Criteria. Issued whenever sufficient reliable radar or appropriate satellite center fix information is available on the tropical cyclone near coasts.

1.5.2.3 Issuance Times. NHC, CPHC and WFO Guam will issue TCEs between 2-hourly intermediate public advisories. Transmit TCEs position estimates near the beginning of the hour.

1.5.2.4 Valid Time. TCEs are valid at time of issuance until a subsequent TCE is issued or until the next scheduled or special TCP.

1.5.2.5 Product Expiration Time. Not applicable.

1.5.3 Technical Description. TCUs will follow the format and content described in this section.

1.5.3.1 UGC Type. Not applicable.

1.5.3.2. Mass News Disseminator Header. The TCE MND header block product type line is "(TROPICAL CYCLONE TYPE) (NAME) POSITION ESTIMATE."

1.5.3.3 Content. The TCE is a brief alphanumeric product containing information derived from WSR-88D radar or appropriate satellite data about tropical cyclone positions near coasts in latitude/longitude coordinates, distance, and direction from a well known point. Local weather offices will use this information in all official statements.

1.5.3.4 Format.

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WTaa5i CCCC DDHHMM
TCExxx

(TROPICAL CYCLONE TYPE) (NAME) POSITION ESTIMATE
NWS TPC/NATIONAL HURRICANE CENTER MIAMI FL
time am/pm time_zone day mon DD YYYY

TEXT


$$
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Figure 5. Tropical Cyclone Position Estimate

1.6 Strike Probabilities of Tropical Cyclone Conditions (SPF).

1.6.1 Mission Connection. The SPF conveys information to users about the risk of a tropical cyclone passing near or over various geographical locations along the coastline or over water.

1.6.2 Issuance Guidelines.

1.6.2.1 Creation Software. ATCF system.

1.6.2.2 Issuance Criteria. NHC will issue probabilities for all named storms in the Atlantic Basin when there is a 72-hour strike probability of one percent or higher at any land location, and for tropical depressions forecast to become named storms when they are a threat to land.

1.6.2.3 Issuance Times. 0300, 0900, 1500, and 2100 UTC and when special TCP's are issued.

1.6.2.4 Valid Time. SPFs are valid at time of issuance or until the next scheduled issuance or update.

1.6.2.5 Product Expiration Time. Generally 6 hours after the issuance time and should coincide with the next expected update or when the event is forecast to end.

1.6.3 Technical Description. SPFs will follow the format and content described in this section.

1.6.3.1 UGC Type. Not applicable.

1.6.3.2. Mass News Disseminator Header. The SPF MND header block product type line is "(TROPICAL CYCLONE TYPE) (NAME) PROBABILITIES NUMBER XX."

1.6.3.3 Content. This product will describe the probability of tropical cyclone conditions in tabular form at the regularly scheduled public advisory times and when special public advisories are issued. Include maximum values over water points when a tropical cyclone is forecast to move parallel to a coastline. Two conditions in which probabilities should not be issued are: (1) the tropical cyclone/tropical storm has made landfall and is not expected to reemerge over water, and/or (2) computed probability values are not significant. At the discretion of the hurricane forecaster, probabilities need not be listed for sites where the tropical storm or hurricane would likely be over land or less than tropical storm strength at the time it would affect the site.

Compute the probabilities shortly after synoptic times for the periods 0-24, 24-36, 36-48, and 48-72 hours. Show a total probability for the next 72 hours in the last column, representing a total of all forecast periods. Indicate in the table with an "X" if the probability for a location is less than 1 percent. Indicate in the public advisory and tropical cyclone forecast/advisory if probabilities are not issued. NHC may include a brief explanation of probabilities in the advisory. Refer to Probability of Hurricane/Tropical Storm Conditions: A User's Manual for further information.

Compute probabilities for the following locations:

Brownsville, Texas
Corpus Christi, Texas
Port O'Connor, Texas
Galveston, Texas
Port Arthur, Texas
New Iberia, Louisiana
New Orleans, Louisiana
Buras, Louisiana
Gulfport, Mississippi
Mobile, Alabama
Pensacola, Florida
Panama City, Florida
Apalachicola, Florida
St. Marks, Florida
Cedar Key, Florida
Tampa, Florida
Venice, Florida
Fort Myers, Florida
Marco Island, Florida
Key West, Florida
Marathon, Florida
Miami, Florida
West Palm Beach, Florida
29N 85W
29N 87W
28N 89W
28N 91W

Ft. Pierce, Florida
Cocoa Beach, Florida
Daytona Beach, Florida
Jacksonville, Florida
Savannah, Georgia
Charleston, South Carolina
Myrtle Beach, South Carolina
Wilmington, North Carolina
Morehead City, North Carolina
Cape Hatteras, North Carolina
Norfolk, Virginia
Ocean City, Maryland
Atlantic City, New Jersey
New York, New York
Montauk Point, New York
Providence, Rhode Island
Nantucket Island, Massachusetts
Hyannis, Massachusetts
Boston, Massachusetts
Portland, Maine
Bar Harbor, Maine
Eastport, Maine

28N 93W
28N 95W
27N 96W
25N 96W

NOTE: Currently, probabilities for the west coast of the continental United States, Hawaii, Guam, American Samoa, Commonwealth of Northern Marinas or Micronesia are not issued.

1.6.3.4 Format.

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WTNT7i KNHC DDHHMM
SPFccc

(TROPICAL CYCLONE TYPE) (NAME) PROBABILITIES NUMBER XX
NWS TPC/NATIONAL HURRICANE CENTER MIAMI FL
time am/pm time_zone day mon DD YYYY

TEXT


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Figure 6. Tropical Cyclone Strike Probabilities Format

2. Subtropical Cyclone Forecast and Advisory Products.

2.1 Subtropical Cyclone Public Advisories (TCP). NHC will issue subtropical cyclone advisories. However, due to the lack of well-defined criteria for distinguishing subtropical from non-tropical lows, marginally-subtropical systems may be handled as non-tropical gale or storm centers in High Seas forecast products. Format and content of these products are similar to the public tropical cyclone advisory. (See appendix A for an example). Title the advisories "SUBTROPICAL DEPRESSION ##" and in the message body refer to the depression as "SUBTROPICAL DEPRESSION ##." If winds reach subtropical storm strength, the storm receives the next available name. Title the advisories "SUBTROPICAL STORM (name)" and in the body message refer to the storm as "SUBTROPICAL STORM (name)." List information in order of importance with a lead statement, when appropriate, followed by a summary of all coastal warnings. Use latitude and longitude coordinates to identify the center of the storm. Issue these advisories at the same scheduled times as public tropical cyclone advisories.

2.2 Subtropical Cyclone Forecast/Advisory (TCM). Issue these advisories for all subtropical cyclones for which a TCP has been issued. Write the advisory in the same format and content as the tropical cyclone forecast/advisories. Title the advisories "SUBTROPICAL DEPRESSION ##" and in the message body refer to the depression as "SUBTROPICAL DEPRESSION ##." If winds reach subtropical storm strength, the storm receives the next available name. Title the advisories "SUBTROPICAL STORM (name)" and in the body message body refer to the storm as "SUBTROPICAL STORM (name)." Issue these at the same times as scheduled tropical cyclone forecast/advisories.

3. Special Advisories. Special advisories are issued whenever an unexpected significant change has occurred or when watches or warnings are to be issued between regularly scheduled advisories. (Watches or warnings may be discontinued on intermediate public advisories.) When

a special advisory is required, the entire advisory package must be issued, including a public advisory, a forecast/advisory, a tropical cyclone discussion, strike probabilities(Atlantic basin), and an ICAO/WMO tropical cyclone advisory.

When the special advisory is issued only for a watch or warning, it will contain the track and intensity forecast from the previous regularly scheduled advisory with only the initial position and intensity updated. When the special advisory is issued for an unexpected change, the previous track and intensity forecast will be updated to reflect the unexpected change

4. Numbering and Naming Tropical and Subtropical Cyclones.

4.1 Numbering and Naming Tropical Cyclones. Tropical Cyclone Centers will number tropical depressions in their areas of responsibility. Number tropical depressions consecutively beginning each season with the spelled out number "ONE." In the north Pacific, for ease in differentiation, tropical depression numbers, assigned by NHC or CPHC, will include the suffix "E" for eastern (east of 140° west longitude) or "C," for central (180° to 140° west longitude) respectively, after the number. In both the Atlantic and Pacific, once the depression reaches tropical storm intensity, name it and drop the depression number. The depression number will not be used again until the following year. Give tropical cyclones a name in the first advisory after intensifying to 34 knots (39 mph) or greater.

The following rules apply for tropical cyclones passing from one basin to another: Retain the name if a tropical cyclone passes from one basin into another basin as a tropical cyclone, i.e. advisories are continuous. An unnamed tropical depression will also retain its number (e.g. Tropical Depression Six-E remains Tropical Depression Six-E) if it crosses into another area of responsibility. For unnamed tropical depressions moving from west to east across 180°, CPHC will use the associated Joint Typhoon Warning Center's (JTWC) number, and indicate JTWC in parentheses following the number. For named systems, CPHC will use the associated Regional Specialized Meteorological Center (RSMC) Tokyo name and provide the associated JTWC number in parentheses.

Within a basin, if the remnant of a tropical cyclone redevelops into a tropical cyclone, it is assigned its original number or name. If the remnants of a former tropical cyclone regenerate in a new basin, the regenerated tropical cyclone will be given a new designation.

If all names for a year are used and another storm requires a name, the Greek alphabet will be used (Alpha, Beta, etc.)

4.2 Numbering and Naming Subtropical Storms. A single list of numbers and names will be used for all tropical and subtropical cyclones. Therefore, numbering of subtropical depressions will follow the same procedure as tropical depressions. For example, if the first subtropical depression follows the first tropical depression, the subtropical depression will be given the designation SUBTROPICAL DEPRESSION TWO. If a subtropical depression becomes a subtropical storm, it receives the next available name in the tropical cyclone naming sequence.

5. Numbering Advisories and Tropical/Subtropical Cyclone Discussions. Number tropical and subtropical cyclone advisories and discussions in the Atlantic and the Pacific similarly. Number scheduled and special advisories and TCDs consecutively beginning with the number 1 (not spelled out) for each new tropical or subtropical cyclone, and continue through the duration of the cyclone. In situations where only TCMs and TCDs are being written (tropical cyclones in the eastern Pacific not threatening land) and at a later time a public advisory is required, the public advisory number will match the corresponding TCM. In both the Atlantic and the Pacific, intermediate advisories and TCDs will retain the advisory number of the scheduled or special advisory they update and append an alphabetic designator (i.e., "HURRICANE ALLISON INTERMEDIATE ADVISORY NUMBER 20A").

6. Other Tropical Cyclone Centers and NCEP Products.

6.1 Satellite Interpretation Message (SIM).

6.1.1 Mission Connection. The SIM locates hazardous weather areas over land and sea, to locate obscured higher terrain, to describe general meteorological conditions, and to make plans for outdoor events, and other activities.

6.1.2 Issuance Guidelines.

6.1.2.1 Creation Software. AWIPS.

6.1.2.2 Issuance Criteria. Issued routinely four times a day for the Hawaiian Islands, with updates as required.

6.1.2.3 Issuance Times. 0030, 0530, 1230, and 1830 UTC

6.1.2.4 Valid Time. SIMs are valid from the time of issuance until the next scheduled issuance or update.

6.1.2.5 Product Expiration Time. Generally 6-8 hours after the issuance time and should coincide with the next expected update.

6.1.3 Technical Description. SIMs will follow the format and content described in this section.

6.1.3.1 UGC Type. Not applicable.

6.1.3.2. Mass News Disseminator Header. The SIM MND header block product type line is "HAWAIIAN ISLANDS SATELLITE INTERPRETATION MESSAGE."

6.1.3.3 Content. The SIM is an alphanumeric product providing an interpretation of synoptic weather features, significant weather areas, and various cloud and weather phenomena based upon satellite imagery (visual, infrared, water vapor, etc.). WFO Honolulu prepares the SIM for a portion of their area of responsibility (AOR). The AORs for WFOs Honolulu vary and depend upon the program (tropical cyclone, aviation, marine, public, and satellite). For the SIM

program, WFO Honolulu's AOR is from 140W to 180W longitude between 10N and 30N latitude. The office can include a description of more distant features if these features relate to significant weather affecting or will soon affect WFO Honolulu's AOR. WFO Honolulu determined the criteria for significant cloud features based upon users inputs.

6.1.3.4 Format.

```
ATHW40 PFHO DDHHMM
SIMHI

HAWAIIAN ISLANDS SATELLITE INTERPRETATION MESSAGE
CENTRAL PACIFIC HURRICANE CENTER/WEATHER FORECAST OFFICE
HONOLULU HI
time am/pm time_zone day mon DD YYYY

TEXT


$$
```

Figure 7. Satellite Interpretation Message Format

6.2 Tropical Weather Discussion (TWD). TPC's Tropical Analysis Forecast Branch (TAFB) will issue these discussions to describe major synoptic weather features and significant areas of disturbed weather in the tropics.

6.2.1 Mission Connection. This product is intended to provide current weather information for those who need to know the current state of the atmosphere and expected trends to assist them in their decision making. The product provides significant weather features, areas of disturbed weather, expected trends, the meteorologic reasoning behind the forecast, model performance, and in some cases a degree of confidence.

6.2.2 Issuance Guidelines.

6.2.2.1 Creation Software. AWIPS.

6.2.2.2 Issuance Criteria. The product is issued routinely and updated if necessary, when significant changes occur, e.g., a tropical cyclone's intensity category is upgraded or downgraded.

6.2.2.3 Issuance Times. One TAFB discussion will cover the Gulf of Mexico, the Caribbean, and the Atlantic between the equator and 32° north latitude and be transmitted at 0605, 1205, 1805, 0005 UTC. A second TAFB message for the eastern Pacific between the equator and 32° north and east of 140° west will be transmitted at 0405, 1005, 1605, and 2205 UTC.

6.2.2.4 Valid Time. TWDs are valid from the time of issuance until the next scheduled issuance or update.

6.2.2.5 Product Expiration Time. Generally 6 hours (TAFB) after the issuance time and should coincide with the next expected update.

6.2.3 Technical Description. TWDs will follow the format and content described in this section.

6.2.3.1 UGC Type. Not applicable.

6.2.3.2. Mass News Disseminator Header. The TWD MND header block product type line is "TROPICAL WEATHER DISCUSSION."

6.2.3.3 Content. The TWD product is an alphanumeric format and contains sections on Tropical Cyclones/Tropical Waves/Disturbances, the location of the Intertropical Convergence Zone and associated convection along it, surface/middle/upper level synoptic discussion, and significant clouds/convection. The product is written in a plain language format but will contain meteorological terms such as trough, ridge, subsidence, jet stream, etc.

6.2.3.4 Format.

```
Ataaii CCCC DDHHMM
TWDxx

TROPICAL WEATHER DISCUSSION
ISSUING OFFICE CITY STATE
time am/pm time_zone day mon DD YYYY

TEXT


$$
```

Figure 8. Tropical Weather Discussion Format

6.3 Tropical Weather Outlook (TWO). NHC and CPHC will prepare the TWO during their respective tropical cyclone seasons.

6.3.1 Mission Connection. The TWO provides users with a general assessment of activity in the tropics, pertaining to tropical cyclone formation by providing to users possible areas where tropical cyclones could develop.

6.3.2 Issuance Guidelines.

6.3.2.1 Creation Software. AWIPS.

6.3.2.2 Issuance Criteria. Routinely during the tropical cyclone season.

6.3.2.3 Issuance Times. In the Atlantic, transmission times are 0530, 1130, 1730, and 2230 Eastern local time. In the eastern Pacific, transmission times are 0400, 1000, 1600, and 2200 Pacific local time; and in the central Pacific, 0200, 0800, 1400 and 2000 UTC.

6.3.2.4 Valid Time. TWOs are valid from the time of issuance until the next scheduled issuance.

6.3.2.5 Product Expiration Time. Generally 6 hours after the issuance time and should coincide with the next expected update.

6.3.3 Technical Description. TWOs will follow the format and content described in this section.

6.3.3.1 UGC Type. Not applicable.

6.3.3.2. Mass News Disseminator Header. The TWO MND header block product type line is "TROPICAL WEATHER OUTLOOK."

6.3.3.3 Content. The outlook, a text product, covers tropical and subtropical waters and discusses areas of disturbed weather and the potential for tropical cyclone development during the next 48 hours. The outlook will mention tropical cyclones and may mention subtropical cyclones, including the system's location (in either general terms or map coordinates), status, and change in status. For the first 24 hours of a tropical cyclone, the outlook will include a statement identifying the NWS product header and WMO headers for the advisory (appendix B).

6.3.3.4 Format.

```
Ataaii CCCC DDHHMM
TWOxxx

TROPICAL WEATHER OUTLOOK
ISSUING OFFICE CITY STATE
time am/pm time_zone day mon DD YYYY

TEXT


$$
```

Figure 9. Tropical Weather Outlook Message Format

6.4 Tropical Weather Summary (TWS).

6.4.1 Mission Connection. These products are used by a variety of users for historical purpose, business (e.g. insurance) and climatological needs.

6.4.2 Issuance Guidelines.

6.4.2.1 Creation Software. ATCF.

6.4.2.2 Issuance Criteria. Monthly.

6.4.2.3 Issuance Times. NHC and CPHC issue new summaries the first day of each month from June through December. The last TWS of the tropical cyclone season (December issuance) covers activity during the entire season from June through the end of November.

6.4.2.4 Valid Time. Not applicable.

6.4.2.5 Product Expiration Time. Not applicable.

6.4.3 Technical Description. TWSs will follow the format and content described in this section.

6.4.3.1 UGC Type. Not applicable.

6.4.3.2. Mass News Disseminator Header. The TWS MND header block product type line is "TROPICAL WEATHER SUMMARY."

6.4.3.3 Content. The TWS is a monthly narrative alphanumeric product which the NHC and the CPHC issue to summarize tropical cyclone activity during the previous month. NHC issues summaries which cover tropical cyclone activity over the Atlantic and eastern north Pacific (north of the equator and east of 140W longitude) basins. CPHC issues summaries which cover tropical cyclone activity over the central North Pacific (north of the equator between 140W and 180W longitude) basin. Information contained within each TWS includes such items as description of strength, intensity, motion, impacts, and dates and times of occurrence. The TWS provides a brief summary of tropical cyclone activity during the preceding month. Monthly updates permit a timely release of tropical cyclone information. In addition to the TWS, NHC and CPHC prepare and submit a formal, detailed season summary which involves a lengthy review and publication process.

6.4.3.4 Format.

```
Ataaii CCCC DDHHMM
TWSxx

TROPICAL WEATHER SUMMARY
ISSUING OFFICE CITY STATE
time am/pm time_zone day mon DD YYYY

TEXT


$$
```

Figure 10. Tropical Weather Summary Format

6.5 Special Tropical Disturbance Statement (DSA). TPC and CPHC will issue these products providing information on strong formative, non-depression tropical systems. TPC and CPHC will coordinate with appropriate local NWS weather offices.

6.5.1 Mission Connection. The DSA provides users with timely and succinct information on the potential for severe weather primarily very heavy rainfall which could lead to flash flooding or river flooding.

6.5.2 Issuance Guidelines.

6.5.2.1 Creation Software. AWIPS.

6.5.2.2 Issuance Criteria. Event driven.

6.5.2.3 Issuance Times. Event driven as needed.

6.5.2.4 Valid Time. Not applicable.

6.5.2.5 Product Expiration Time. Not applicable.

6.5.3 Technical Description. DSAs will follow the format and content described in this section.

6.5.3.1 UGC Type. Not applicable.

6.5.3.2. Mass News Disseminator Header. The DSA MND header block product type line is "SPECIAL TROPICAL DISTURBANCE STATEMENT."

6.5.3.3 Content. CPHC and NHC base the information contained within the DSA on latest available data from all sources with special reliance on surface observations and satellite

data. The DSA is a brief alphanumeric text product using a block paragraph format and will focus on major threats of the disturbance, such as the potential for torrential rains on islands or inland areas.

6.5.3.4 Format.

```
ttaaii CCCC DDHHMM
DSAxx

SPECIAL TROPICAL DISTURBANCE STATEMENT
ISSUING OFFICE CITY STATE
time am/pm time_zone day mon DD YYYY

TEXT

$$
```

Figure 11. Special Tropical Disturbance Statement Format

6.6 Tropical Cyclone Summary - Fixes (TCS).

6.6.1 Mission Connection. This provides meteorological information to marine interests, military forecasters and national meteorological services of countries/members in the Pacific Ocean area.

6.6.2 Issuance Guidelines.

6.6.2.1 Creation Software. AWIPS.

6.6.2.2 Issuance Criteria. When a tropical cyclone is classifiable using the Dvorak technique.

6.6.2.3 Issuance Times. After the initial tropical cyclone fix, succeeding products will be done at approximately 0000, 0600, 1200, and 1800 UTC as long as the system is classifiable.

6.6.2.4 Valid Time. TCSs are valid from the time of issuance until the next scheduled issuance or update.

6.6.2.5 Product Expiration Time. Generally 6 hours after the issuance time and should coincide with the next expected update or when the event is forecast to end.

6.6.3 Technical Description. TCSs will follow the format and content described in this section.

6.6.3.1 UGC Type. Not applicable.

6.6.3.2. Mass News Disseminator Header. The TCS header block product type line is "CENTRAL PACIFIC TROPICAL CYCLONE SUMMARY - FIXES" or "SOUTH PACIFIC TROPICAL CYCLONE SUMMARY - FIXES."

6.6.3.3 Content. TCS is an alphanumeric product provided by CPHC when there is classifiable (using the Dvorak technique) tropical cyclone activity in the north central or south Pacific. The TCS is a satellite-based estimate of tropical cyclone location, movement, and intensity with a brief remarks section. CPHC prepares TCS for a portion of their area of responsibility (AOR). The AORs for CPHC/Weather Forecast Office (WFO) Honolulu (CPHC is collocated with the Weather Forecast Office Honolulu) varies depending upon the program (tropical cyclone, aviation, marine, public, and satellite). For TCS program, CPHC's AOR is the area north of the equator between 140W - 180 longitude and from the equator to 25 S latitude between 120W to 160E.

6.6.3.4 Format.

```
TXPaii CCCC DDHHMM
TCSxxx

CENTRAL PACIFIC TROPICAL CYCLONE SUMMARY - FIXES or
SOUTH PACIFIC TROPICAL CYCLONE SUMMARY - FIXES
NWS CENTRAL PACIFIC HURRICANE CENTER HONOLULU HI
time am/pm time_zone day mon DD YYYY

TEXT


$$
```

Figure 13. Tropical Cyclone Summary - Fixes Format

6.7 Tropical Cyclone Danger Area Graphic

6.7.1 Mission Connection. The product is used to assist mariners and military agencies avoid high seas associated with tropical cyclones. Also, it provides guidance to users on possible tropical cyclone genesis.

6.7.2 Issuance Guidelines

6.7.2.1 Creation Software. N-AWIPS.

6.7.2.2 Issuance Criteria. Routinely prepared by NHC and CPHC during the tropical cyclone season for all on-going tropical cyclone activity in their respective areas of responsibility.

6.7.2.3 Issuance Times. The product is disseminated four times per day during the hurricane season within one hour after the advisory package issuance. This would be at 0400, 1000, 1600 and 2200 UTC.

6.7.2.4 Valid Time. Tropical Cyclone Danger Area graphic is valid from the time of issuance until the next scheduled issuance or update.

6.7.2.5 Product Expiration Time. Generally 6 hours after the issuance time and should coincide with the next expected update.

6.7.3 Technical Description. The Tropical Cyclone Danger Area graphic will follow the format and content described in this section.

6.7.3.1 UGC Type. Not applicable.

6.7.3.2. Mass News Disseminator Header. Not applicable.

6.7.3.3 Content. The Tropical Cyclone Danger Area is a graphical marine product depicting a tropical cyclone's track (out to 72 hours) and shades in a danger area determined by adding 100, 200, and 300 nautical miles plus the 34 knot wind radii to the 24-, 48-, and 72- hour forecast position respectively in the Atlantic and east Pacific. In addition, areas of possible tropical cyclone genesis (out to 36 hours) are included and depicted as either a circular, rectangle, oval, or polygon shaped area. The product is prepared by the TPC and covers the entire Atlantic north of the equator and the Pacific north of the equator from the Mexican and Central America coast west to 140° west. CPHC prepares a separate chart for 140° west to the International Dateline north of the equator.

6.7.3.4 Format. Graphical product.

6.8 Aviation Tropical Cyclone Advisory (TCA).

6.8.1 Mission Connection. The TCA is intended to provide short-term tropical cyclone forecast guidance for international aviation safety and routing purposes.

6.8.2 Issuance Guidelines.

6.8.2.1 Creation Software. ATCF

6.8.2.2 Issuance Criteria. Prepared by NHC and CPHC for all on-going tropical cyclone activity
in their respective areas of responsibility. This requirement is stated in the World Meteorological Organization Region IV hurricane plan.

6.8.2.3 Issuance Times. 0300, 0900, 1500, and 2100 UTC.

6.8.2.4 Valid Times. TCAs are valid from the time of issuance until the next scheduled issuance or update.

6.8.2.5 Product Expiration Time. Generally 6 hours after the issuance time and should coincide with the next expected update.

6.8.3 Technical Description. TCAs will follow the format and content described in this section.

6.8.3.1 UGC Type. Not applicable.

6.8.3.2 Mass News Disseminator Header. The TCA header block product type line is "(TROPICAL CYCLONE TYPE) ICAO ADVISORY #."

6.8.3.3 Content. TCAs list the current TC position, motion and intensity, and 12-, 18- and 24-hour forecast positions and intensities. It is an alphanumeric text product produced by hurricane forecasters, and consists of information extracted from the official forecasts. This forecast is produced from subjective evaluation of current meteorological and oceanographic data as well as output from numerical weather prediction models, and is coordinated with affected WFOs, the National Centers, and the Department of Defense.

6.8.3.4 Format.

```
FKaa2i CCCC DDHHMM
TCAxxx

(TROPICAL CYCLONE TYPE) (NAME)ICAO ADVISORY NUMBER ##
ISSUING OFFICE CITY STATE
time am/pm time_zone day mon DD YYYY

TEXT


$$
```

Figure 13. Aviation Tropical Cyclone Advisory Format

6.9 HPC Public Advisories (TCP).

6.9.1 Mission Connection. Provides users with meteorological information, primarily the potential of heavy rain and flash flooding, from decaying subtropical or tropical systems which have moved inland.

6.9.2 Issuance Guidelines.

6.9.2.1 Creation Software. Word Processor

6.9.2.2 Issuance Criteria. The HPC will issue public advisories after NHC discontinues its advisories on subtropical and tropical cyclones that have moved inland, but still pose a threat of heavy rain and flash floods in the conterminous United States or adjacent areas within Mexico which affect the drainage basins of NWS River Forecast Centers. The last NHC advisory will normally be issued when winds in an inland tropical cyclone drop below tropical storm strength, and the tropical depression is not forecast to regain tropical storm intensity or re-emerge over water. HPC advisories will terminate when the threat of flash flooding has ended.

6.9.2.3 Issuance Times. Advisories are issued at 0300, 0900, 1500, and 2100 UTC.

6.9.2.4 Valid Times. TCPs are valid from the time of issuance until the next scheduled issuance or update.

6.9.2.5 Product Expiration Time. Generally 6 hours after the issuance time and should coincide with the next expected update or when the event is forecast to end.

6.9.3 Technical Description. TCPs will follow the format and content described in this section.

6.9.3.1 UGC Type. Not applicable.

6.9.3.2 Mass News Disseminator Header. The TCP MND header block product type line is "PUBLIC ADVISORY NUMBER XX FOR (TROPICAL CYCLONE TYPE) (NAME)."

6.9.3.3 Content. The TCP is an alphanumeric product. HPC will continue to be numbered in sequence with tropical cyclone advisories issued by TPC and will reference the former storm's name in the text. Content will refer to the decaying system's position, intensity, general forecast trends, highlight impacts which occurred and are expected to occur (usually in relation to heavy rain/flooding and tornadoes), and indicate when the next summary will be issued.

6.9.3.4 Format.

```
WTNT3i KWNH DDHHMM
TCPATc

PUBLIC ADVISORY NUMBER XX FOR (TROPICAL CYCLONE TYPE) (NAME)
NWS HYDROMETEOROLOGICAL PREDICTION CENTER CAMP SPRINGS MD
time am/pm time_zone day mon DD YYYY

TEXT


$$
```

Figure 14. HPC Public Advisory Product Format

6.10 Tropical Cyclone Reports (TCR).

6.10.1 Mission Connection. The TCR is the official record of each tropical cyclone within NHC's and CPHC's respective areas of responsibility and documents each storm's intensity (wind and pressure) and location throughout its lifetime. These detailed reports are used by various users for research, NWS verification and historical purposes.

6.10.2 Issuance Guidelines.

6.10.2.1 Creation Software. Word Processor

6.10.2.2 Issuance Criteria. Not applicable

6.10.2.3 Issuance Times. The report will be released no later than 90 days after the last advisory on each tropical cyclone.

6.10.2.4 Valid Times. Not applicable.

6.10.2.5 Product Expiration Time. Not applicable.

6.10.3 Technical Description. TCRs will follow the format and content described in this section.

6.10.3.1 UGC Type. Not applicable.

6.10.3.2 Mass News Disseminator Header. Not applicable. Internet product.

6.10.3.3 Content. The TCR is a post-event overview of a tropical cyclone comprised of a narrative describing the overall storm and a detailed listing of 6-hourly location and intensity data in both text and graphic format. The NHC and the CPHC prepare TCRs within 90 days of any tropical cyclone occurring within their respective Area of Responsibility (AOR). NHC issues TCRs for tropical cyclone activity in the Atlantic and eastern north Pacific (north of the equator and east of 140 degrees west longitude) basins. CPHC issues TCRs for tropical cyclone activity in the central North Pacific (north of the equator between 140W and 180 degrees west longitude) basin. The tropical cyclone report will include landfall and 6-hourly synoptic track and intensity data (i.e. the "best track"). NHC will post reports on the Internet at www.nhc.noaa.gov/pastall.html and CPHC at www.prh.noaa.gov/cphc. Any changes to the best track for the Atlantic and east Pacific will be made by NHC's Best Track Committee. Reviews at CPHC will be conducted by the director and deputy director CPHC, WFO Honolulu warning coordination meteorologist and hurricane program leader.

6.10.3.4 Format. Not applicable.

6.11 Tropical Cyclone Track and Watch/Warning Graphic.

6.11.1 Mission Connection. This product is a graphical representation of text products (TCP

and TCM) issued by NHC. It provides critical information on the forecast path of the tropical cyclone, and watches and warnings issued by NHC.

6.11.2 Issuance Guidelines.

6.11.2.1 Creation Software. N-AWIPS

6.11.2.2 Issuance Criteria. Created when routine TCPs and TCMs are issued and for special advisories.

6.11.2.3 Issuance Times. The product is available on the Internet at 0300, 0900, 1500, and 2100 UTC. The graphic is also produced for special advisories.

6.11.2.4 Valid Times. Valid from the time of issuance until the next routine issuance or by a special advisory.

6.11.2.5 Product Expiration Time. Generally 6 hours after the issuance time and should coincide with the next expected update or when the event is forecast to end.

6.11.3 Technical Description. The graphic will follow the format and content described in this section.

6.11.3.1 UGC Type. Not applicable.

6.11.3.2 Mass News Disseminator Header. Not applicable. Internet product.

6.11.3.3 Content. The Tropical Cyclone Track and Watch/Warning graphic contains the storm's forecast track, a cone along the track based upon the average area of uncertainty for the position of the center, and watches/warnings. This product is also issued for subtropical storms. The coastal watches and warnings display shows an approximate representation of coastal areas under a hurricane warning (red), hurricane watch (pink), tropical storm warning (blue) and tropical storm watch (yellow). The orange circle indicates the current position of the center of the tropical cyclone. The black line and dots show the NHC forecast track of the center at the times indicated. The NHC forecast tracks of the center can be in error, and the white area indicates the average area of uncertainty for the position of the center.

6.11.3.4 Format. Not applicable.

7. WFO Products.

7.1 Hurricane/Typhoon Local Statements (HLS). WFOs with coastal county responsibilities and selected inland WFOs will issue these unnumbered products which are very specific and designed to inform media, local decision makers, and the public on present and anticipated storm effects in their county warning area (CWA) and adjacent coastal waters. **Keep HLSs as succinct as possible.**

7.1.1 Mission Connection. Alert the public, media, and local decision makers of potential or

actual storm effects due to tropical cyclones. The product is intended to provide information to assist in the preparation and implementation of necessary precautions for the protection of life and property, as well as to minimize the economic losses as a result of tropical cyclones.

7.1.2 Issuance Guidelines.

7.1.2.1 Creation Software. AWIPS

7.1.2.2 Issuance Criteria. The following WFOs will issue HLSs when their area of responsibility is affected by a tropical cyclone watch/warning or evacuation orders. HLSs may also be issued as needed to dispel rumors or to clarify tropical cyclone related information for their CWA. Coastal WFOs have the option to include inland counties in the HLS.

Coastal WFOs are defined as those having at least one county with significant tidal influences. Those are:

Eastern Region	Southern Region	Western Region
Caribou, ME	Brownsville, TX	San Diego, CA
Portland, ME	Corpus Christi, TX	Los Angeles/Oxnard, CA
Boston, MA	Houston/Galveston, TX	
New York City, NY	Lake Charles, LA	Pacific Region
Philadelphia, PA	New Orleans, LA	Honolulu, HI
Baltimore, MD/Washington, DC	Mobile, AL	Guam
Wakefield, VA	Tallahassee, FL	WSO Pago Pago, American Samoa
Newport/Morehead City, NC	Tampa Bay, FL	
Wilmington, NC	Miami, FL	
Charleston, SC	Key West, FL	
	Melbourne, FL	
	Jacksonville, FL	
	San Juan, PR	

Inland WFOs listed below will also issue HLSs when hurricane or tropical storm force winds are expected to impact their area of responsibility. Inland offices not issuing HLSs but expecting hurricane or tropical storm force winds may be required to issue an Inland Tropical Storm/Hurricane Wind Watches or Warnings. Reference section 7.3.

Atlanta, GA	Jackson, MS
Austin/San Antonio, TX	Lubbock, TX
Birmingham, AL	Midland, TX
Fort Worth, TX	San Angelo, TX
Huntsville, AL	

7.1.2.3 Issuance Times. The initial HLS should be issued as soon as possible following the first issuance of a tropical storm/hurricane watch/warning for your area of responsibility. When a tropical storm or hurricane is close to the coast, issue HLSs every 2 to 3 hours or more frequently as circumstances warrant. Do not release HLSs immediately before an advisory unless information is coordinated with the appropriate Tropical Cyclone Center and, for watches or warnings, the valid initiation time is specified. HLSs do not need to immediately follow the

issuance of a new hurricane advisory. Issuing HLSs midway between advisories maintains a steady flow of information to the media and the public. However, when local storm impacts are changing rapidly, or a new advisory changes the potential impact on a local area, information needs to be distributed in a fresh HLS as soon as possible. Routine HLSs may cease when the tropical cyclone is no longer a threat to an office's CWA.

7.1.2.4 Valid Time. HLSs are valid at time of issuance until a subsequent HLS is issued. HLSs are issued at least once every 6 hours

7.1.2.5 Product Expiration Time. Generally 6 hours after the issuance time and should coincide with the next expected update or when the event is forecast to end.

7.1.3 Technical Description. HLSs will follow the format and content described in this section.

7.1.3.1 UGC Type. HLSs will use the zone (Z) form of the UGC.

7.1.3.2 Mass News Disseminator Header. The HLS MND header block product type line is "(TROPICAL CYCLONE TYPE) LOCAL STATEMENT."

7.1.3.3 Content. HLSs will add localized details to Tropical Cyclone Center's advisory releases and should not conflict with or repeat advisory information not directly applicable to the local office's CWA. Before the first HLS, use public information statements (PNS) to inform the public on routine hurricane preparedness information. The first HLS may also contain standard preparedness messages. Information may be added to the end of the HLS describing where additional storm information can be found in supporting Center's TCP and TCM as well as PNSs and NOWs (Short Term Forecast) issued by the local office.

HLSs should use tropical cyclone position estimates provided by their tropical cyclone center between advisories when appropriate. When tropical cyclones threaten the Samoas (American Samoa and Samoa), the two local offices will coordinate with RSMC Nadi, CPHC, and with each other to determine the best integrated and internally consistent forecast of conditions expected in the area.

The following table defines which products are issued via the normal suite of product headers during tropical cyclone watches/warnings and those products superceded by tropical cyclone watches/warnings and carried in a HLS.

HLS Product Table

Product	Tropical Cyclone Watch/Warning	
	HLS	**Stand-alone**
Flood watch/Warning/Statement		X
Flood Warning		X
Tornado Warning		X
Inland Tropical Storm or Inland Hurricane Watch/Warning		X
Severe Thunderstorm Warning		X[1]
Coastal Flood Watch/Warning/Statement	X[2]	X[2]
Special Marine Warning		X[3]
Severe Weather Statement		X[1]
Marine Weather Statement		X[3]
Special Weather Statement	X	
Surf Zone Forecast/Surf Forecast	X	
High Surf Advisory/Warning issued by WFO Honolulu	X	

[1] Can be issued as stand-alone products at the discretion of the WFO. However, their use should be confined to peripheral events, such as outer rainbands, prior to sustained tropical storm or hurricane strength winds.

[2] If no CFW products were issued by the WFO prior to the issuance of a tropical cyclone watch or warning and an HLS is issued, no CFW products will be issued for the duration of the tropical cyclone event.

Complications occur when a CFW product is in effect and tropical cyclone watches and/or warnings are issued. The basic premise is if the threat level of a tropical cyclone product equals or exceeds the threat level of an existing CFW, the CFW will be discontinued. Below are details.

- A CFW product is in effect for a Coastal Flood Warning and/or High Surf Warning and a tropical cyclone *watch* is issued - CFW will **continue** as standalone product along with HLS product.

- A CFW product is in effect for a Coastal Flood Warning and/or High Surf Warning and a tropical cyclone *warning* is issued - CFW will be **canceled** and users directed to the HLS for further information on coastal hazards.

- A CFW product is in effect for a Coastal Flood Advisory, Coastal Flood Watch, and/or High Surf Watch and a tropical cyclone *watch* or *warning* is issued - CFW will be **canceled** and users directed to the HLS for further information on coastal hazards.

PRODUCTS IN EFFECT	CONTINUE CFW	CANCEL CFW	ISSUE HLS
Coastal Flood ADVISORY (CFW) and Tropical Cyclone WATCH is issued		**X**	**X**
Coastal Flood ADVISORY (CFW) and Tropical Cyclone WARNING is issued		**X**	**X**
Coastal Flood WATCH (CFW) and Tropical Cyclone WATCH is issued		**X**	**X**
Coastal Flood WATCH (CFW) and Tropical Cyclone WARNING is issued		**X**	**X**
Coastal Flood WARNING (CFW) and Tropical Cyclone WATCH is issued	**X**		**X**
Coastal Flood WARNING (CFW) and Tropical Cyclone WARNING is issued		**X**	**X**
High Surf WATCH (CFW) and Tropical Cyclone WATCH is issued		**X**	**X**
High Surf WATCH (CFW) and Tropical Cyclone WARNING is issued		**X**	**X**
High Surf WARNING/ADVISORY (CFW) and Tropical Cyclone WATCH is issued	**X**		**X**
High Surf WARNING (CFW) and Tropical Cyclone WARNING is issued		**X**	**X**

[3] WFOs have the option to issue stand-alone special marine warnings (SMWs) on an as needed basis. This will primarily occur during watch situations prior to the onset of tropical storm winds impacting a marine zone. In cases of waterspouts, SMWs may be issued anytime during tropical cyclone watch/warning situations.

7.1.3.4 Format. As appropriate, product header options are "Hurricane or Typhoon Local Statement," "Tropical Storm Local Statement" or "Tropical Depression Local Statement." All HLSs will contain at least one headline. Prepare each section of the HLS by a content/topic header set off by three dots before and after each header. Prioritize and adjust the order to focus on the greatest threat and the most important information impacting the area.

Contents of Hurricane/Typhoon Local Statements:

...Headline...
A minimum of at least one concise lead sentence or headline.

...Areas Affected...
Details of which counties, parishes, or cities are included in the HLS.

...Watches/Warnings...
Watches and warnings in effect and counties or parishes to which they apply.

...Storm Information...
Present location, movement, and winds and expected time of onset of tropical storm/ hurricane/typhoon force winds. Give timing of impacts in ranges or general terms such as "afternoon," "evening," and so on. Use the tropical cyclone forecast/advisory as guidance.

...Precautionary/Preparedness Actions...
Short-term precautionary actions and times they should be completed.
This includes any evacuation recommendations as provided or stated by local authorities. Listing these actions is particularly important once a tropical cyclone watch or warning is announced.

...Storm Surge Flood and Storm Tide Impacts...
Storm surge and storm tide (storm surge plus astronomical tide) information, including times various heights are expected, present heights, and their locations. If data exists, a comparison of storm surge heights from previous tropical cyclones should be included. Storm surge information must agree with Tropical Cyclone Center forecasts as included in the advisories. Include storm tide information because local officials might not have access to tide tables. Reference storm tide forecasts to appropriate datums understood by local authorities. For many portions of the coast, this would be mean sea level although some areas use mean lower low water.

...Wind Impacts...
Present winds and expected time of onset of tropical storm or hurricane force winds. (Use the tropical cyclone forecast/advisory as guidance.) WFOs may provide information about the local impacts of the expected winds.

...Other Impacts...(Substitute appropriate header to reflect most important threat)
Any statements on potential tornado and flood/flash flood threats, rip currents, beach erosion, inland flooding, etc. Headlines would read for example: "...Inland Flooding Impacts..." or "...Tornado Impacts..."

...Probability of Hurricane/Tropical Storm Conditions...
Information on probability of hurricane/typhoon/tropical storm conditions is optional.

...New Information...
Specific new and vital information which you wish to bring to the attention of users.

...Next Update...
Time of next or final statement.

Some private sector vendors are parsing and scrolling HLS information. Format consistency of some of the HLS information is required. WFOs should still arrange the sections as they see fit with the most important first. WFOs still retain the option to use whatever headline they wish in the "Other Impact" section. Any section (including the ones the private sector are using) can be omitted if it is not appropriate for a given situation. Below are the headlines and those section headlines which require consistent formatting, e.g. ellipses, carriage returns and the exact section headline wording.

...Headline(s)...
More than one headline allowed with no blank lines in between, each section headline beginning and ending with ellipses

...Precautionary/Preparedness Actions...

...Storm Surge Flood and Storm Tide Impacts...

...Wind Impacts...

For the Headlines section, the vendor's software will key in on the singular blank line between the Time/Date line of the Mass News Dissemination Header and the three ellipses (...) at the beginning and ending of each headline. For the other three sections, the vendor's software will key on a blank line, the headline as written above, and three ellipses (before and after).

Example

HURRICANE LOCAL STATEMENT
NATIONAL WEATHER SERVICE XXXXX
1019 AM CDT TUE JUL 15 2003

...HURRICANE ZENIA MOVING ONTO THE MIDDLE TEXAS COAST
NEAR PORT O'CONNOR...
...A HURRICANE WARNING IS IN EFFECT FROM BAFFIN BAY TO HIGH
ISLAND...

...PRECAUTIONARY/PREPAREDNESS ACTIONS...
TEXT

...STORM SURGE FLOOD AND STORM TIDE IMPACTS...
TEXT

...WIND IMPACTS...
TEXT

Wtaaii CCCC DDHHMM
HLSxxx
stZXXX-XXX>XXX-DDHHMM-
(TROPICAL CYCLONE TYPE) LOCAL STATEMENT
NATIONAL WEATHER SERVICE CITY, STATE
time am/pm time_zone day mon DD YYYY

...HEADLINE...

...Areas Affected...

...Watches/Warnings...

...Storm Information...

...Precautionary/Preparedness Actions...

...Storm Surge Flood and Storm Tide Impacts...

...Wind Impacts...

...Other Impacts...(Substitute appropriate header to reflect most important threat)

...Probability of Hurricane/Tropical Storm Conditions...

...New Information...

...Next Update...
$$

Figure 15. Hurricane Local Statement Format

7.1.4 Relationship of HLSs to the NOW. The NOW is a stand-alone product focused on conditions impacting the office's CWA for the next 0 to 6 hours. It will complement the HLS by providing critical storm information.

7.2 Tornado Warnings (TOR). WFOs should follow policy for the issuance of tornado warnings as per directive 10-511. However, for the 2005 season, the TOR product may be used for the purpose to warn the public to immediately take shelter in an interior portion of a well-built structure due to the onset of extreme tropical cyclone destructive winds.

A tornado warning for extreme tropical cyclone destructive winds may be issued when all of the following criteria are met:

Imminent or occurring onset of tropical cyclone related **sustained** winds, greater than or equal to 100 knots (115 mph).

Onset of tropical cyclone related destructive winds are expected to develop or occur within a WFOs county warning area within an hour.

The warning valid time should be two hours or less using county UGCs.

An example of the TOR for this purpose can be found in the Appendix A.

7.2.1 Mass News Disseminator Header. WFOs will use the product name TORNADO WARNING in the MND header.

7.3 Inland Tropical Storm/Hurricane Watch or Warning (NPW). Coastal and inland WFOs will issue an inland tropical storm watch or warning, or inland hurricane watch or warning, when a tropical cyclone is expected to spread tropical storm or hurricane force winds inland under the non-precipitation weather product NPW. The NPW will be exclusively used for this product's initial issuance, subsequent follow-up, and cancellation. The following WFOs are exempt from this policy and will issue NPWs for high wind watches and/or warnings if tropical storm winds move into their area of responsibility.

Albany, NY	Cleveland, OH
Binghamton, NY	Pittsburgh, PA
Buffalo, NY	State College, PA
Burlington, VT	Wilmington, OH
Charleston, WV	

7.3.1 Mission Connection. Non-precipitation watches and warnings provide our users and partners advance notice of hazardous non-precipitation weather events which have the potential to threaten life and property.

7.3.2 Issuance Guidelines.

7.3.2.1 Creation Software. Use AWIPS Graphical Hazards Generator (Watch/Warning/Advisory software) or other text editors.

7.3.2.2 Issuance Criteria. WFOs will issue Inland Tropical Storm/Hurricane Watches when tropical storm/hurricane force winds are possible within the watch area within 36 hours. WFOs will issue Inland Tropical Storm/Hurricane Warnings when tropical storm/hurricane force winds are expected within the warning area within 24 hours. For those offices issuing the inland watch/warnings, the NPW product will be updated as conditions warrant. At a minimum this should be every six hours or after the issuance of a six hourly NHC TCP advisory.

7.3.2.3 Issuance Times. Event driven.

7.3.2.4 Valid Time. Watch is valid up to 48 hours after the issuance time. The valid time (event start and end times) is described in the watch headline. A warning is valid up to 36 hours after issuance time. The valid time (event start and end times) is described in the warning headline.

7.3.2.5 Product Expiration Time. Generally 6-8 hours after the issuance time and should coincide with the next expected update or when the event is forecast to end.

7.3.3 Technical Description. NPWs will follow the format and content described in this section.

7.3.3.1 UGC Type. NPWs will use the zone (Z) form of the UGC.

7.3.3.2 Mass News Disseminator Header. Not applicable.

7.3.3.3 Content. A headline will be "Inland Tropical Storm Watch (or Warning)" or "Inland Hurricane Watch (or Warning)." To compliment TPC Tropical Cyclone Watches and Warnings that have been issued for coastal counties, inland sections of those coastal counties may be placed under WFO inland tropical storm/hurricane watches or warnings when the effects of the tropical cyclone can be clearly described to the public and not lead to confusion. Coordination will occur with all impacted offices and NHC before issuance. The appropriate forecasts and statements will highlight watches and warnings.

7.3.3.4 Format.

```
WWaaii CCCC DDHHMM
NPWxxx

URGENT - WEATHER MESSAGE
NATIONAL WEATHER SERVICE CITY, STATE
time am/pm time_zone day mon DD YYYY

...<Overview headline statement>...

.<General non-precipitation weather synopsis>

stZxxx-xxx>xxx-DDHHMM-
zone-zone-zone
INCLUDING THE CITIES OF...
time am/pm time_zone day mon dd yyyy

...HEADLINE...

TEXT


$$
```

Figure 16. Inland NPW Product Format

7.4 Inland Tropical Storm/Hurricane Watch or Warning for Subtropical Storms. WFOs will issue an inland tropical storm watch or warning, or inland hurricane watch or warning when a subtropical storm is expected to spread tropical storm or hurricane force winds inland. Use same procedures as noted in section 7.3.

7.5 Post-Tropical Cyclone Reports (PSH). All WFOs issuing HLSs will prepare post-storm reports. Inland offices issuing inland tropical storm/hurricane wind watches or warnings will also submit reports. Other offices whose CWA's experienced wind gusts greater than 33 knots, flooding, tornadoes, damage, or casualties will also submit reports.

7.5.1 Mission Connection. The PSH product is intended to provide the NHC, NWS Headquarters, media, public and emergency management officials with a record of peak tropical cyclone conditions. This data is then used to formulate other post-event reports, news articles and historical records.

7.5.2 Issuance Guidelines.

7.5.2.1 Creation Software. AWIPS

7.5.2.2 Issuance Criteria. If HLSs are issued, PSH will be issued.

7.5.2.3 Issuance Times. Transmit the reports within 5 days following the transmission of the last HLS or inland tropical storm/hurricane wind watches or warnings addressed to the appropriate Tropical Cyclone Center or National Center and a copy to Weather Service Headquarters, W/OS21. Amend reports as needed.

7.5.2.4 Valid Times. Not applicable.

7.5.2.5 Product Expiration Time. Not applicable

7.5.3 Technical Description.

7.5.3.1 UGC Type. Not applicable.

7.5.3.2 Mass News Disseminator Header. The PSH header block product type line is "POST-TROPICAL CYCLONE REPORT...(TROPICAL CYCLONE TYPE)(NAME)."

7.5.3.3 Content. Include the following items in the initial report and in any subsequent updated reports:

a. Wind data: If the observed peak gusts are greater than 33 knots, report highest sustained surface wind speed (knots) and duration (1-, 2- 8-, or 10-minute average which ever applies), peak gust (knots), and date/times of occurrence in UTC. Specify anemometer height (feet) if other than 33 feet. Report all NOAA, Department of Defense, and Federal Aviation Administration official observing sites in a NWS office's CWA

including ASOS sites, NOAA buoy/Coastal Marine Automated Network (C-MAN) stations, and National Ocean Service stations. Also report other reliable data collected by government sources or other institutions. These include reports from stations maintained by the U. S. Coast Guard; state, county, and local governments; universities; private companies; and experimental networks. List adjusted speeds corrected for instrument type and speed range if known. Data reports from the public are optional. However, NWS offices should encourage these data and include them in the PSH when considered reliable.

b. Pressure data: Report lowest sea level pressure (millibars), and date/time of occurrence (UTC). Report data from all sources given in Section a, and other stations where significant pressure observations are available. Report pressures less than 1005 mb, with pressure greater than 1005 mb reported as needed or as requested by the NHC.

c. Storm total rainfall: Report amount (inches) and duration (dates). In addition, list maximum 1-, 6-, 12-, and 24-hour amounts (inches) identifying date/time (UTC) of occurrence. Report data from all sources given in Section a, and other stations where significant rainfall observations are available. Report storm total rainfalls of 3 inches or more, with amounts under 3 inches reported as needed or as requested by the NHC.

d. Maximum storm tide heights: Reference storm tide to appropriate datums understood by local authorities. For many portions of the coast, this would be National Geodetic Vertical Datum although some areas use mean lower low water. Report storm tide in feet above the datum, and storm surge/wind waves in feet above the normal, predicted (astronomical) tide level. Identify location and date/time (UTC) of occurrence where possible. Report tides of 1 foot or greater above normal, with tides of less than 1 foot above normal reported as needed or as requested by the NHC.

e. Extent of beach erosion: As appropriate.

f. Flooding and/or flash flooding in CWA: Report to include date/times (UTC) and locations of occurrence.

g. Tornadoes in CWA: Report (times and locations).

h. Storm effects: Such as deaths, injuries, dollar damages, number of people evacuated, etc., within an office's CWA.

7.5.3.4 Format.

Ataa2i CCCC DDHHMM
PSHxxx

POST TROPICAL CYCLONE REPORT...(TROPICAL CYCLONE TYPE)
NATIONAL WEATHER SERVICE CITY STATE
time am/pm time_zone day mon DD YYYY

Wind data

Pressure data

Storm total rainfall

Maximum storm tide heights

Extent of beach erosion

Flooding and/or flash flooding in CWA

Tornadoes in CWA

Storm effects
$$

Figure 17. Post Tropical Cyclone Report Format

7.6 Information for Service Assessments. WFOs will forward a copy of media reports, especially newspaper clippings (online and printed) representative of the event and its impacts. Send reports to the appropriate regional headquarters and TPC within 7 days following the issuance of the last product concerning the storm. Reports do not have to include all interviews or radio or television spots concerning the landfall event in each local office's CWA.

7.7 Local Storm Reports (LSR). WFOs will prepare these reports in accordance with LSR instructions (Reference directive 10-517).

7.8 Storm Reports. WFOs will prepare these reports in accordance with Storm Data Preparation instruction (Reference directive 10-1605).

8. Correction Procedures. Tropical cyclone centers and WFOs should correct products using the following format:

WTNT KNHC 161441 CCA
TCDAT1

TROPICAL STORM ARTHUR DISCUSSION NUMBER 8...CORRECTED
NWS TPC/NATIONAL HURRICANE CENTER MIAMI FL
11 AM EDT TUE JULY 16 2002

CORRECTED FOR (GIVE REASON)

TEXT FOLLOWS....

CCA - If a second correction is necessary, the "A" becomes a "B" (CCB).
"CORRECTED FOR" is optional but encouraged.

9. Procedures for Populating WFO-Generated Wind Forecast Grids for Tropical Cyclone Events. The following are short-term solutions to be followed by all impacted WFOs for populating WFO wind grids for tropical cyclones. Updates to this directive will take place as better methods for populating WFO-generated wind forecasts are integrated into the Interactive Forecast Preparation System.

9.1 Wind Speed Values Within the 34 kt Wind Radii

0-24 hours
Use wind forecast from the TCM as guidance for locating the 34-, 50- and 64-kt wind radii to maintain synoptic consistency. Apply local knowledge and mesoscale expertise to produce explicit/deterministic wind speed forecasts for all CWA/MAR grids using a full continuum of values up to the maximum sustained wind value provided by tropical cyclone centers.

25-72 hours
Use wind forecast from the TCM as guidance for locating the 34-, 50- and 64-kt wind radii to maintain synoptic consistency. Extrapolate the 64 kt radii from the 36-hour model guidance (TCMWind tool will do this). Coordinate consensus with NHC and adjacent WFOs. Apply local knowledge and mesoscale expertise to produce explicit/deterministic wind speed forecasts for all CWA/MAR grids using a full continuum of wind speeds up to 100 knots or up to the maximum sustained wind forecast by the NHC if it is less than 100 knots. For 101 kts and above use the capped value of 100 kts for grid points inside the 64 kt wind radii.

73-120 hours
Use forecast from the TCM as guidance for locating the center positions to maintain synoptic consistency. Extrapolate the 64-kt radii, the 50-kt radii and the 34-kt from model guidance (TCMWind tool will do this). Coordinate consensus with NHC and adjacent WFOs. Apply local knowledge and mesoscale expertise to produce explicit/deterministic wind speed forecasts for all CWA/MAR grids using a full continuum of wind speeds up to 64 knots or up to the maximum sustained wind forecast by the NHC if it is less than 64 knots. For 65 kts and above use the capped value of 64 kts for grid points inside the 64 kt wind radii.

121-168 hours
Use traditional guidance and WFO discretion to produce explicit/deterministic wind speed forecasts for all CWA/MAR grids using a full continuum of wind speeds up to 30 kts. The choice for 30 kts avoids potential confusion which can result from the automated rounding of 33 kts to 35 kts when generating graphical wind barbs, and with associated textual formatters which convert kts to miles per hour (then round to the nearest 5 mph).

9.2 Wind Speed Values Outside the 34 kt Wind Radii

0-120 hours
Use deterministic wind speed values.

9.3 Wind Direction Values Inside or Outside the 34 kt Wind Radii

0-168 hours
Use deterministic wind direction values.

9.4 Wind Gust Values Inside or Outside the 34 kt Wind Radii. At this time there is no requirement to produce a gust grids. As an option, if a WFO desires to produce a gust grid it will have to be created with little or no guidance.

9.5 Caveat. It is highly recommended the following caveat be placed on all text and graphical products..."Winds in and near tropical cyclones should be used with caution due to uncertainty in forecast track, size, and intensity."

Appendix A

EXAMPLES OF TROPICAL WEATHER PRODUCTS

Example: Tropical Weather Outlook

ABNT20 KNHC 100855
TWOAT

TROPICAL WEATHER OUTLOOK
NWS TPC/NATIONAL HURRICANE CENTER MIAMI FL
530 AM EDT THU AUG 10 2000

FOR THE NORTH ATLANTIC...CARIBBEAN SEA AND THE GULF OF MEXICO...

THE NATIONAL HURRICANE CENTER IS ISSUING ADVISORIES ON HURRICANE ALBERTO AND ON TROPICAL DEPRESSION FOUR.

CLOUDINESS AND SHOWERS ASSOCIATED WITH A TROPICAL WAVE ABOUT A COUPLE OF HUNDRED MILES SOUTH OF THE CAPE VERDE ISLANDS ARE MOVING WESTWARD. THERE IS SOME POTENTIAL FOR DEVELOPMENT DURING THE NEXT FEW DAYS.

A LARGE AREA OF CLOUDINESS AND THUNDERSTORMS ASSOCIATED WITH A TROPICAL WAVE HAS DEVELOPED OVER THE NORTHWESTERN CARIBBEAN SEA. THIS ACTIVITY IS EXPECTED TO SPREAD WEST-NORTHWESTWARD OVER PORTIONS OF CENTRAL AMERICA AND YUCATAN DURING THE NEXT DAY OR TWO. THERE ARE NO SIGNS OF TROPICAL CYCLONE FORMATION AT THIS TIME.

CLOUDINESS AND THUNDERSTORMS BETWEEN THE BAHAMAS AND BERMUDA ARE DECREASING AT THIS TIME. HOWEVER...SOME REDEVELOPMENT OF THE SHOWER ACTIVITY IS POSSIBLE DURING THE NEXT 24 HOURS.

ELSEWHERE...TROPICAL STORM FORMATION IS NOT EXPECTED THROUGH FRIDAY.

FORECAST/ADVISORIES ON TROPICAL DEPRESSION FOUR ARE ISSUED UNDER AWIPS HEADER TCMAT4 AND WMO HEADER WTNT24 KNHC. PUBLIC ADVISORIES ARE ISSUED UNDER AWIPS HEADER TCPAT4 AND WMO HEADER WTNT34 KNHC.

Examples: Mass News Disseminator Headers

TROPICAL DEPRESSION ONE-E ADVISORY NUMBER 1
TROPICAL STORM ALEX ADVISORY NUMBER 3
HURRICANE ALEX ADVISORY NUMBER 4
SUBTROPICAL STORM THREE ADVISORY NUMBER 1

Example: Tropical Storm Public Advisory

WTNT33 KNHC 081500
TCPAT3

BULLETIN
TROPICAL STORM FLOYD ADVISORY NUMBER 4
NWS TPC/NATIONAL HURRICANE CENTER MIAMI FL
11 AM AST WED SEP 08 1999

...FLOYD MOVING WEST-NORTHWESTWARD IN THE TROPICAL ATLANTIC...

AT 11 AM AST...1500Z...THE CENTER OF TROPICAL STORM FLOYD WAS LOCATED NEAR LATITUDE 15.8 NORTH...LONGITUDE 50.0 WEST OR ABOUT 755 MILES...1210 KM...EAST OF THE LEEWARD ISLANDS.

FLOYD IS MOVING TOWARD THE WEST NORTHWEST NEAR 15 MPH ...24 KM/HR...AND THIS MOTION IS EXPECTED TO CONTINUE THROUGH TONIGHT.

MAXIMUM SUSTAINED WINDS ARE NEAR 45 MPH... 75 KM/HR...WITH HIGHER GUSTS...AND SOME SLOW STRENGTHENING IS EXPECTED DURING THE NEXT 24 HOURS.

TROPICAL STORM FORCE WINDS EXTEND OUTWARD UP TO 85 MILES...140 KM FROM THE CENTER.

ESTIMATED MINIMUM CENTRAL PRESSURE IS 1003 MB...29.62 INCHES.

REPEATING THE 11 AM AST POSITION...15.8 N... 50.0 W. MOVEMENT TOWARD...WEST NORTHWEST NEAR 15 MPH. MAXIMUM SUSTAINED WINDS... 45 MPH. MINIMUM CENTRAL PRESSURE...1003 MB.

THE NEXT ADVISORY WILL BE ISSUED BY THE NATIONAL HURRICANE CENTER AT 5 PM AST.

FORECASTER FRANKLIN

Example: Hurricane/Typhoon Public Advisory

WTNT33 KNHC 151500
TCPAT3

BULLETIN
HURRICANE FLOYD ADVISORY NUMBER 32
NWS TPC/NATIONAL HURRICANE CENTER MIAMI FL
11 AM EDT WED SEP 15 1999

...FRINGES OF HURRICANE CONTINUE TO IMPACT COAST OF NORTH FLORIDA
AND GEORGIA...BUT FLOYD IS HEADING FOR THE CAROLINAS...

AT 11 AM EDT...A TROPICAL STORM WATCH IS EXTENDED NORTHWARD AND IS NOW IN EFFECT FROM NORTH OF CHINCOTEAGUE VIRGINIA TO SANDYHOOK NEW JERSEY...INCLUDING DELAWARE BAY.

A HURRICANE WARNING REMAINS IN EFFECT FROM TITUSVILLE FLORIDA TO THE NORTH CAROLINA/VIRGINIA BORDER...INCLUDING PAMLICO AND ALBEMARLE SOUNDS. AT 11 AM EDT...HURRICANE WARNINGS ARE DISCONTINUED SOUTH OF TITUSVILLE.

A HURRICANE WATCH CONTINUES IN EFFECT FROM THE NORTH CAROLINA/VIRGINIA BORDER TO CHINCOTEAGUE VIRGINIA...INCLUDING CHESAPEAKE BAY SOUTH OF SMITH POINT.

INTERESTS ALONG THE FLORIDA EAST COAST SOUTH OF TITUSVILLE SHOULD EXERCISE CAUTION UNTIL WINDS AND SEAS SUBSIDE.

AT 11 AM EDT...1500Z...THE CENTER OF HURRICANE FLOYD WAS LOCATED NEAR LATITUDE 29.9 NORTH...LONGITUDE 79.0 WEST OR ABOUT 165 MILES EAST-SOUTHEAST OF JACKSONVILLE FLORIDA. THIS POSITION IS ALSO ABOUT 260 MILES SOUTH OF MYRTLE BEACH SOUTH CAROLINA.

FLOYD IS MOVING TOWARD THE NORTH NORTHWEST NEAR 14 MPH AND A GRADUAL TURN TOWARD THE NORTH IS EXPECTED TODAY.

MAXIMUM SUSTAINED WINDS ARE NEAR 125 MPH...205 KM/HR...WITH HIGHER GUSTS. LITTLE CHANGE IN STRENGTH IS FORECAST BEFORE LANDFALL...WHICH IS EXPECTED TONIGHT NEAR THE BORDER OF SOUTH AND NORTH CAROLINA. ALL PREPARATIONS SHOULD BE RUSHED TO COMPLETION.

HURRICANE FORCE WINDS EXTEND OUTWARD UP TO 140 MILES...220

KM...FROM THE CENTER...AND TROPICAL STORM FORCE WINDS EXTEND OUTWARD UP TO 230 MILES...370 KM.

THE LATEST MINIMUM CENTRAL PRESSURE REPORTED BY U.S. AIR FORCE HURRICANE HUNTER AIRCRAFT IS 943 MB...27.85 INCHES.

STORM SURGE FLOODING OF 10 TO 13 FEET ABOVE NORMAL TIDE LEVELS...ALONG WITH LARGE AND DANGEROUS BATTERING WAVES...ARE EXPECTED NEAR AND TO THE EAST OF WHERE THE CENTER CROSSES THE COAST. HEAVY SURF ADVISORIES ARE IN EFFECT FOR THE U.S. EAST COAST NORTHWARD TO CHATHAM MASSACHUSETTS. REFER TO STATEMENTS ISSUED BY LOCAL NATIONAL WEATHER SERVICE OFFICES FOR ADDITIONAL INFORMATION.

RAINFALL TOTALS OF 5 TO 10 INCHES ARE EXPECTED ALONG THE PATH OF THE HURRICANE.

ISOLATED TORNADOES ARE POSSIBLE OVER THE COASTAL COUNTIES OF SOUTH AND NORTH CAROLINA.

REPEATING THE 11 AM EDT POSITION...29.9 N... 79.0 W. MOVEMENT TOWARD...NORTH NORTHWEST NEAR 14 MPH. MAXIMUM SUSTAINED WINDS...125MPH. MINIMUM CENTRAL PRESSURE... 943 MB.

FOR STORM INFORMATION SPECIFIC TO YOUR AREA...PLEASE MONITOR PRODUCTS ISSUED BY YOUR LOCAL WEATHER OFFICE.

INTERMEDIATE ADVISORIES WILL BE ISSUED BY THE NATIONAL HURRICANE CENTER AT 1 PM EDT AND 3 PM EDT FOLLOWED BY THE NEXT COMPLETE ADVISORY AT 5 PM EDT.

FORECASTER LAWRENCE

Example: Intermediate Public Advisory

WTNT33 KNHC 151900
TCPAT3

BULLETIN
HURRICANE FLOYD INTERMEDIATE ADVISORY NUMBER 32B
NWS TPC/NATIONAL HURRICANE CENTER MIAMI FL
3 PM EDT WED SEP 15 1999
...FRINGES OF HURRICANE CONTINUE TO IMPACT COAST OF NORTH FLORIDA AND GEORGIA...BUT FLOYD IS HEADING FOR THE CAROLINAS...

A HURRICANE WARNING REMAINS IN EFFECT FROM NORTH OF FERNANDINA BEACH FLORIDA TO THE NORTH CAROLINA/VIRGINIA BORDER...INCLUDING PAMLICO AND ALBEMARLE SOUNDS. AT 3 PM EDT...WARNINGS ARE DISCONTINUED FROM FERNANDINA BEACH SOUTHWARD. WARNINGS WILL LIKELY BE DISCONTINUED FOR PORTIONS OF GEORGIA LATER TODAY.

A HURRICANE WATCH REMAINS IN EFFECT FROM THE NORTH CAROLINA/VIRGINIA BORDER TO CHINCOTEAGUE VIRGINIA...INCLUDING CHESAPEAKE BAY SOUTH OF SMITH POINT.

A TROPICAL STORM WATCH REMAINS IN EFFECT FROM NORTH OF CHINCOTEAGUE VIRGINIA TO MONTAUK POINT LONG ISLAND...INCLUDING DELAWARE BAY AND LONG ISLAND SOUND.

INTERESTS ALONG THE FLORIDA EAST COAST SHOULD EXERCISE CAUTION UNTIL WINDS AND SEAS SUBSIDE.

AT 3 PM EDT...1900Z...THE CENTER OF HURRICANE FLOYD WAS LOCATED NEAR LATITUDE 30.8 NORTH...LONGITUDE 79.1 WEST OR ABOUT 200 MILES SOUTH OF MYRTLE BEACH SOUTH CAROLINA.

FLOYD IS MOVING ALMOST DUE NORTHWARD AT 15 MPH AND THIS MOTION IS EXPECTED TO CONTINUE TODAY WITH A GRADUAL TURN TOWARD THE NORTH-NORTHEAST ON THURSDAY.

MAXIMUM SUSTAINED WINDS HAVE DECREASED TO NEAR 120 MPH...WITH HIGHER GUSTS. ALTHOUGH THE HURRICANE HAS BEEN SLOWLY WEAKENING...IT IS OVER THE WARM WATERS OF THE GULF STREAM COULD MAINTAIN ITS PRESENT STRENGTH UNTIL LANDFALL TONIGHT. ALL PREPARATIONS IN THE WARNING AREA SHOULD BE RUSHED TO COMPLETION.

HURRICANE FORCE WINDS EXTEND OUTWARD UP TO 140 MILES...220 KM... FROM THE CENTER...AND TROPICAL STORM FORCE WINDS EXTEND OUTWARD UP TO 230 MILES...370 KM.

THE LATEST MINIMUM CENTRAL PRESSURE REPORTED BY U.S. AIR FORCE HURRICANE HUNTER AIRCRAFT IS 947 MB...27.96 INCHES.

STORM SURGE FLOODING OF 10 TO 13 FEET ABOVE NORMAL TIDE LEVELS...ALONG WITH LARGE AND DANGEROUS BATTERING WAVES...ARE EXPECTED NEAR AND TO THE EAST OF WHERE THE CENTER CROSSES THE COAST.

HEAVY SURF ADVISORIES ARE IN EFFECT FOR THE U.S. EAST COAST

NORTHWARD TO CHATHAM MASSACHUSETTS. REFER TO STATEMENTS ISSUED BY LOCAL NATIONAL WEATHER SERVICE OFFICES FOR ADDITIONAL INFORMATION.

RAINFALL TOTALS OF 5 TO 10 INCHES ARE EXPECTED ALONG THE PATH OF THE HURRICANE.

ISOLATED TORNADOES ARE POSSIBLE OVER THE COASTAL COUNTIES OF SOUTH AND NORTH CAROLINA.

FOR STORM INFORMATION SPECIFIC TO YOUR AREA...PLEASE MONITOR PRODUCTS ISSUED BY YOUR LOCAL WEATHER OFFICE.

REPEATING THE 3 PM EDT POSITION...30.8 N... 79.1 W. MOVEMENT TOWARD...NORTH NEAR 15 MPH. MAXIMUM SUSTAINED WINDS...120 MPH. MINIMUM CENTRAL PRESSURE... 947 MB.

THE NEXT ADVISORY WILL BE ISSUED BY THE NATIONAL HURRICANE CENTER AT 5 PM EDT.

FORECASTER LAWRENCE

Example: Special Public Advisory

WTNT33 KNHC 241309
TCPAT3

BULLETIN
HURRICANE ANDREW SPECIAL ADVISORY NUMBER 25
NWS TPC/NATIONAL HURRICANE CENTER MIAMI FL
900 AM EDT MON AUG 24 1992

...HURRICANE ANDREW MOVING INTO THE GULF OF MEXICO...

HURRICANE WARNINGS REMAIN POSTED FOR THE FLORIDA WEST COAST SOUTH OF VENICE TO FLAMINGO AND FOR LAKE OKEECHOBEE. AT 9 AM EDT A HURRICANE WATCH WILL GO INTO EFFECT FOR THE NORTHERN GULF COAST FROM MOBILE ALABAMA TO SABINE PASS TEXAS. ALL OTHER POSTED WATCHES AND WARNINGS ARE DISCONTINUED.

WIND GUSTS TO HURRICANE FORCE CONTINUE TO OCCUR ALONG THE SOUTHEAST FLORIDA COAST BUT WILL GRADUALLY DIMINISH DURING THE DAY. SMALL CRAFT ADVISORIES REMAIN IN EFFECT. RESIDENTS IN THESE AREAS SHOULD MONITOR LOCAL NWS OFFICES FOR THE LATEST FORECASTS AND CONDITIONS IN THEIR AREA.

AT 9 AM EDT THE CENTER OF HURRICANE ANDREW WAS LOCATED NEAR LATITUDE 25.6 NORTH AND LONGITUDE 81.8 WEST OR APPROXIMATELY 45 MILES SOUTH OF NAPLES FLORIDA.

HURRICANE ANDREW IS MOVING TOWARD THE WEST AT 18 MPH. THIS MOTION IS EXPECTED TO CONTINUE THIS MORNING WITH A GRADUAL TURN TO THE WEST NORTHWEST LATER TODAY.

MAXIMUM SUSTAINED WINDS ARE NEAR 140 MPH. LITTLE CHANGE IN STRENGTH IS LIKELY DURING THE NEXT 24 HOURS.

HURRICANE FORCE WINDS EXTEND OUTWARD TO 30 MILES...50 KM FROM THE CENTER WITH TROPICAL STORM FORCE WINDS EXTENDING OUTWARD TO 140 MILES. ESTIMATED MINIMUM CENTRAL PRESSURE IS 945 MB...27.91 INCHES.

STORM SURGES OF 5 TO 8 FEET ARE POSSIBLE ON THE FLORIDA WEST COAST NEAR AND TO THE SOUTH OF THE CENTER FOLLOWING PASSAGE OF THE HURRICANE. ALONG THE SOUTHEAST COAST OF FLORIDA STORM SURGE TIDES ARE DECREASING. PRELIMINARY REPORTS FROM THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT INDICATE A STORM SURGE OF 8 FEET ABOVE NORMAL WAS RECORDED IN BISCAYNE BAY NEAR HOMESTEAD FLORIDA.

RAINFALL AMOUNTS OF 5 TO 8 INCHES AND ISOLATED TORNADOES ARE POSSIBLE ACROSS SOUTHERN AND CENTRAL FLORIDA TODAY.

FOR STORM INFORMATION SPECIFIC TO YOUR AREA...PLEASE MONITOR PRODUCTS ISSUED BY YOUR LOCAL WEATHER OFFICE.

REPEATING THE 9 AM EDT POSITION...LATITUDE 25.6 NORTH AND LONGITUDE 81.8 WEST AND MOVING TOWARD THE WEST AT 18 MPH. MAXIMUM SUSTAINED WINDS NEAR 140 MPH. MINIMUM CENTRAL PRESSURE OF 945 MB...27.91 INCHES.

THE NEXT SCHEDULED ADVISORY WILL BE ISSUED BY THE NATIONAL HURRICANE CENTER AT 11 AM EDT MON.

Example: Public Advisory Correction

WTNT31 KNHC 240855 CCA
TCPAT3

HURRICANE ANDREW ADVISORY NUMBER 25...CORRECTED
NWS TPC/NATIONAL HURRICANE CENTER MIAMI FL
500 AM EDT MON AUG 24 1992

CORRECTED FOR CENTRAL PRESSURE...

BODY OF TEXT
Example: Hurricane Forecast/Advisory

NOTE: As part of the header, a code string is appended at the end of the line "NWS TPC/NATIONAL HURRICANE CENTER MIAMI FL"

Format: NWS TPC/NATIONAL HURRICANE CENTER MIAMI FL BSNOYR
where: (BS) is the basin (AL, EP or CP)
where: (NO) is the tropical cyclone number (01, 02, 03,...99)
where: (YR) is four digits of the year.

WTNT25 KNHC 230300
TCMAT5

HURRICANE ISIDORE FORECAST/ADVISORY NUMBER 28
NWS TPC/NATIONAL HURRICANE CENTER MIAMI FL AL102002
0300Z MON SEP 23 2002

A HURRICANE WARNING REMAINS IN EFFECT ALONG THE GULF OF MEXICO AND CARIBBEAN COASTS OF THE YUCATAN PENINSULA FROM CAMPECHE NORTH AND EASTWARD TO TULUM...INCLUDING THE ISLAND OF COZUMEL.

HURRICANE CENTER LOCATED NEAR 20.8N 89.5W AT 23/0300Z
POSITION ACCURATE WITHIN 20 NM

PRESENT MOVEMENT TOWARD THE SOUTHWEST OR 220 DEGREES AT 4 KT

ESTIMATED MINIMUM CENTRAL PRESSURE 950 MB
MAX SUSTAINED WINDS 90 KT WITH GUSTS TO 110 KT.
64 KT..... 45NE 25SE 25SW 45NW.
50 KT..... 75NE 50SE 50SW 75NW.
34 KT.....200NE 130SE 100SW 150NW.
12 FT SEAS..300NE 200SE 150SW 300NW.

WINDS AND SEAS VARY GREATLY IN EACH QUADRANT. RADII IN NAUTICAL MILES ARE THE LARGEST RADII EXPECTED ANYWHERE IN THAT QUADRANT.

REPEAT...CENTER LOCATED NEAR 20.8N 89.5W AT 23/0300Z

AT 23/0000Z CENTER WAS LOCATED NEAR 21.0N 89.4W
FORECAST VALID 23/1200Z 20.7N 90.3W
MAX WIND 80 KT...GUSTS 100 KT.
64 KT... 40NE 20SE 25SW 40NW.
50 KT... 60NE 40SE 40SW 60NW.
34 KT...180NE 60SE 60SW 150NW.

FORECAST VALID 24/0000Z 21.0N 91.0W
MAX WIND 95 KT...GUSTS 115 KT.
64 KT... 45NE 25SE 25SW 45NW.
50 KT... 75NE 50SE 50SW 75NW.
34 KT...200NE 150SE 100SW 150NW.

FORECAST VALID 24/1200Z 21.8N 92.0W
MAX WIND 115 KT...GUSTS 140 KT.
64 KT... 60NE 45SE 45SW 60NW.
50 KT...100NE 75SE 75SW 100NW.
34 KT...200NE 150SE 125SW 180NW.

FORECAST VALID 25/0000Z 22.8N 92.5W
MAX WIND 125 KT...GUSTS 155 KT.
50 KT...100NE 100SE 75SW 100NW.
34 KT...200NE 200SE 150SW 200NW.

FORECAST VALID 26/0000Z 25.0N 93.0W
MAX WIND 125 KT...GUSTS 155 KT.
50 KT...100NE 100SE 75SW 100NW.
34 KT...200NE 200SE 150SW 200NW.

EXTENDED OUTLOOK. NOTE...ERRORS FOR TRACK HAVE AVERAGED NEAR 275 NM ON DAY 4 AND 375 NM ON DAY 5...AND FOR INTENSITY NEAR 20 KT EACH DAY

OUTLOOK VALID 27/0000Z 22.8N 92.5W
MAX WIND 100 KT...GUSTS 120 KT.

OUTLOOK VALID 28/0000Z 25.0N 93.0W
MAX WIND 90 KT...GUSTS 110 KT.

REQUEST FOR 3 HOURLY SHIP REPORTS WITHIN 300 MILES OF 20.8N 89.5W

NEXT ADVISORY AT 23/0900Z

FORECASTER PASCH

Example: Hurricane Forecast Discussion

WTNT45 KNHC 230300
TCDAT5

HURRICANE ISIDORE DISCUSSION NUMBER 28
NWS TPC/NATIONAL HURRICANE CENTER MIAMI FL
11 PM EDT SUN SEP 22 2002

THE CENTER HAS MOVED SOUTH OF THE SHORT-TERM FORECAST TRACK...AND MOVED INLAND OVER NORTHWESTERN YUCATAN A FEW HOURS AGO. THUS THE CYCLONE IS WEAKENING...AND WILL CONTINUE TO DO SO UNTIL IT MOVES BACK OVER WATER. ASIDE FROM THE INTERACTION WITH LAND...ATMOSPHERIC AND OCEANIC CONDITIONS REMAIN QUITE FAVORABLE FOR INTENSIFICATION SO THE OFFICIAL FORECAST CALLS FOR ISIDORE TO RECOVER ITS PREVIOUS INTENSITY AND MORE...PRESUMING THAT IT RE-ENTERS THE GULF TOMORROW. THE OFFICIAL WIND SPEED FORECASTS BY DAYS 2 AND 3 ARE BACK TO THOSE SHOWN IN THE PREVIOUS ADVISORY. HOWEVER...TROPICAL CYCLONE INTENSITY FORECASTING HAS A LOT OF UNCERTAINTIES. IF THE INNER CORE STRUCTURE IS SEVERELY DISRUPTED BY THE CYCLONES TRANSIT OVER LAND...IT MAY NOT BE ABLE TO RE-INTENSIFY AS MUCH AS ANTICIPATED.

THE FORWARD SPEED APPEARS TO HAVE SLOWED AND CURRENT MOTION IS ESTIMATED TO BE A SOUTHWESTWARD DRIFT...220/4. THE MORE SOUTHERLY MOTION WAS PROBABLY THE RESULT OF MID-LEVEL RIDGING TO THE WEST-NORTHWEST OF ISIDORE. GLOBAL MODELS AND THE GFDL HURRICANE MODEL AGREE THAT THE SYSTEM WILL TURN BACK TO THE WEST AND NORTHWEST WITHIN 12 TO 24 HOURS. AFTERWARDS...A MID-TROPOSPHERIC RIDGE SHOULD BEGIN TO BUILD TO THE EAST OF ISIDORE...WHICH SHOULD INDUCE A MORE NORTHWARD MOTION. NOT MUCH INCREASE IN FORWARD SPEED IS EXPECTED UNTIL A MID-LATITUDE TROUGH BEGINS TO AFFECT THE SYSTEM...PROBABLY BEYOND THIS FORECAST PERIOD.

THE THREE-DAY FORECAST POINT IMPLIES AN EVENTUAL THREAT TO EITHER THE NORTHWEST OR NORTHERN GULF OF MEXICO COAST...HOWEVER IT IS STILL TOO EARLY TO BE MORE SPECIFIC ABOUT THE THREAT.

FORECASTER PASCH

FORECAST POSITIONS AND MAX WINDS

INITIAL	23/0300Z	20.8N	89.5W	90 KT
12HR VT	23/1200Z	20.7N	90.3W	80 KT
24HR VT	24/0000Z	21.0N	91.0W	95 KT
36HR VT	24/1200Z	21.8N	92.0W	115 KT
48HR VT	25/0000Z	22.8N	92.5W	125 KT
72HR VT	26/0000Z	25.0N	93.0W	125 KT
96HR VT	27/0000Z	27.0N	92.5W	100 KT
120HR VT	28/0000Z	29.0N	92.0W	90 KT

Example: Tropical Cyclone Update from - CPHC

WTPA61 PHFO 222000
TCUCP1

HURRICANE INIKI TROPICAL CYCLONE UPDATE
NWS CENTRAL PACIFIC HURRICANE CENTER HONOLULU HI
100 PM PST SAT AUG 22 1992

...RECONNAISSANCE AIRCRAFT INDICATE WINDS IN INIKI HAVE REACHED HURRICANE STRENGTH...

SHORTLY AFTER 1 PM PST...AIR FORCE RESERVE RECONNAISSANCE AIRCRAFT INDICATED MAXIMUM SUSTAINED WINDS IN TROPICAL STORM INIKI HAD INCREASED TO HURRICANE FORCE. DETAILS WILL FOLLOW IN A SPECIAL HURRICANE ADVISORY AT 2 PM PST.

Example: Tropical Cyclone Position Estimate

WTNT51 KNHC 190755
TCEAT1

HURRICANE HUGO...POSITION ESTIMATE
NWS TPC/NATIONAL HURRICANE CENTER MIAMI FL
300 AM AST TUE SEP 19 1989

AT 3 AM AST THE CENTER OF HURRICANE HUGO WAS ESTIMATED NEAR LATITUDE 20.7 NORTH AND LONGITUDE 67.3 WEST. THIS IS APPROXIMATELY 155 MILES NORTH NORTHWEST OF SAN JUAN PUERTO RICO AND 220 MILES EAST SOUTHEAST OF GRAND TURK ISLAND OF THE BAHAMAS.

LAWRENCE

Example: Tropical Cyclone Summary - Fixes

TXPN40 PHFO 120017
TCSCP

CENTRAL PACIFIC TROPICAL CYCLONE SUMMARY - FIXES
NWS CENTRAL PACIFIC HURRICANE CENTER HONOLULU HAWAII
300 PM HST APR 12 2000

TROPICAL DISTURBANCE LOCATED NEAR 13.9N 152.2W AT 11/2330 UTC BASED ON GOES VIS DATA AND ANIMATION. POSITION ACCURATE WITHIN 45 NM. ESTIMATED MAXIMUM 1 MINUTE WIND SPEED 25 KT. MOVEMENT TOWARD 295 DEGREES AT 14 KT OVER THE PAST 6 HOURS.

T1.5/1.5/D/17.5 HOURS

REMARKS: LOW LEVEL CIRCULATION CENTER (LLCC) IS MORE THAN THREE FOURTHS OF A DEGREE FROM DENSE OVERCAST...YIELDING A DATA T OF 1.5. MET AGREES. SYSTEM NOT IDENTIFIABLE USING PATTERN T. MAIN CONVECTION IS 85 NM TO THE EAST/SOUTHEAST OF THE LLCC AND HAS WEAKENED CONSIDERABLY OVER THE PAST SIX HOURS.

Example: Strike Probabilities of Tropical Cyclone Conditions

WTNT71 KNHC 150900
SPFAT3

HURRICANE FLOYD PROBABILITIES NUMBER 31
NWS TPC/NATIONAL HURRICANE CENTER MIAMI FL
5 AM EDT WED SEP 15 1999

PROBABILITIES FOR GUIDANCE IN HURRICANE PROTECTION PLANNING BY GOVERNMENT AND DISASTER OFFICIALS

AT 5 AM EDT...0900Z...THE CENTER OF FLOYD WAS LOCATED NEAR LATITUDE 28.8 NORTH...LONGITUDE 78.8 WEST

CHANCES OF CENTER OF THE HURRICANE PASSING WITHIN 65 NAUTICAL MILES OF LISTED LOCATIONS THROUGH 2AM EDT SAT SEP 18 1999

LOCATION	A	B	C	D	E	LOCATION	A	B	C	D	E

33.2N 79.1W	38 2 X X 40	PROVIDENCE RI	X X 3 13 16
36.3N 78.0W	X 26 6 X 32	NANTUCKET MA	X X 2 12 14
40.0N 75.0W	X X 18 3 21	HYANNIS MA	X X 2 12 14
COCOA BEACH FL	5 X X 1 6	BOSTON MA	X X 2 13 15
DAYTONA BEACH FL	20 X X X 20	PORTLAND ME	X X 1 14 15
JACKSONVILLE FL	25 X X X 25	BAR HARBOR ME	X X X 12 12
SAVANNAH GA	36 1 X X 37	EASTPORT ME	X X X 11 11
CHARLESTON SC	41 1 X X 42	ST JOHN NB	X X X 10 10
MYRTLE BEACH SC	30 7 X X 37	MONCTON NB	X X X 9 9
WILMINGTON NC	15 17 1 X 33	YARMOUTH NS	X X X 9 9
MOREHEAD CITY NC	5 19 3 1 28	HALIFAX NS	X X X 7 7
CAPE HATTERAS NC	1 13 8 X 22	SABLE ISLAND NS	X X X 2 2
NORFOLK VA	X 11 15 X 26	SYDNEY NS	X X X 3 3
OCEAN CITY MD	X 2 19 1 22	EDDY POINT NS	X X X 4 4
ATLANTIC CITY NJ	X X 17 4 21	PTX BASQUES NFLD	X X X 3 3
NEW YORK CITY NY	X X 12 7 19	BURGEO NFLD	X X X 2 2
MONTAUK POINT NY	X X 5 11 16		

COLUMN DEFINITION PROBABILITIES IN PERCENT
A IS PROBABILITY FROM NOW TO 2AM THU
FOLLOWING ARE ADDITIONAL PROBABILITIES
B FROM 2AM THU TO 2PM THU
C FROM 2PM THU TO 2AM FRI
D FROM 2AM FRI TO 2AM SAT
E IS TOTAL PROBABILITY FROM NOW TO 2AM SAT
X MEANS LESS THAN ONE PERCENT

FORECASTER GUINEY

NOTE: Above probability table is provided as an example depicting the format. The probabilities included do no necessarily agree with the predicted forecast positions.

Example: Subtropical Cyclone Public Advisory

WTNT31 KNHC 040255
TCPAT1

BULLETIN
SUBTROPICAL DEPRESSION ONE ADVISORY NUMBER 2
NWS TPC/NATIONAL HURRICANE CENTER MIAMI FL
11 PM EDT WED OCT 04 2000

...SUBTROPICAL DEPRESSION TURNS EAST-NORTHEAST WITH LITTLE

CHANGE IN STRENGTH...

AT 11 PM EDT...0300Z...THE CENTER OF THE SUBTROPICAL DEPRESSION WAS LOCATED NEAR LATITUDE 29.8 NORTH...LONGITUDE 79.5 WEST OR ABOUT 105 MILES...165 KM...EAST-NORTHEAST OF DAYTONA BEACH FLORIDA.

THE DEPRESSION IS MOVING TOWARD THE EAST-NORTHEAST NEAR 9 MPH ...15 KM/HR...AND THIS MOTION IS EXPECTED TO CONTINUE FOR THE NEXT 24 HOURS.

MAXIMUM SUSTAINED WINDS ARE NEAR 35 MPH... 55 KM/HR...WITH HIGHER GUSTS....MAINLY WELL TO THE EAST AND SOUTHEAST OF THE CENTER. SOME STRENGTHENING IS FORECAST DURING THE NEXT 24 HOURS.

THE LATEST MINIMUM CENTRAL PRESSURE REPORTED BY A NOAA HURRICANE HUNTER AIRCRAFT IS 1010 MB...29.83 INCHES.

REPEATING THE 11 PM EDT POSITION...29.8 N... 79.5 W. MOVEMENT TOWARD...EAST-NORTHEAST NEAR 9 MPH. MAXIMUM SUSTAINED WINDS... 35 MPH. MINIMUM CENTRAL PRESSURE...1010 MB.
THE NEXT ADVISORY WILL BE ISSUED BY THE NATIONAL HURRICANE CENTER AT 5 AM EDT...THURSDAY.

FORECASTER BEVEN

Example: Public Advisory (previously Storm Summary)

WTNT31 KWNH 291658
TCPAT1

PUBLIC ADVISORY NUMBER 58 FOR DEPRESSION GEORGES
NWS HYDROMETEOROLOGICAL PREDICTION CENTER CAMP SPRINGS MD
1200 PM CDT TUE SEP 29 1998

AT 1000 AM CDT THE CENTER OF CIRCULATION ASSOCIATED WITH "GEORGES" WAS LOCATED NEAR 31.1N 87.9W...OR ROUGHLY 35 MILES NORTH NORTHEAST OF MOBILE ALABAMA. MAXIMUM SUSTAINED WINDS WERE JUST OVER 30 MPH WITH OCCASIONAL GUSTS OVER 40 MPH..AND GRADUAL WEAKENING IS EXPECTED TO CONTINUE DURING THE NEXT 24 HOURS AS IT SLOWLY MOVES TOWARD THE NORTHEAST ACROSS SOUTH AND CENTRAL ALABAMA.

AT THE PRESENT TIME...RADAR AND SATELLITE IMAGERY IS STILL

SHOWING A WELL-DEFINED CIRCULATION WITH "GEORGES." LARGE AMOUNTS OF MOISTURE FROM THE GULF OF MEXICO ARE STREAMING NORTHWARD AROUND THE EASTERN SIDE OF THE SYSTEM. THIS MOISTURE HAS LED TO AN EXTENSIVE AREA OF HEAVY RAIN WITH EMBEDDED THUNDERSTORMS AS FAR NORTH AS NORTH GEORGIA...WHERE THE MOISTURE IS INTERACTING WITH A COLD FRONT MOVING THROUGH THE EASTERN STATES. MEANWHILE...DRY AIR BEING WRAPPED AROUND WEST SIDE OF THE CIRCULATION HAS BROUGHT AN END TO THE HEAVY RAIN OVER SOUTH AND EAST MISSISSIPPI...WHERE ONLY LIGHT SHOWERS REMAIN.

THE BIG STORY NOW WITH "GEORGES" WILL CONTINUE TO BE THE EXTREMELY HEAVY RAINFALL ALONG WITH THE THREAT OF TORNADOES ALONG ITS EAST EDGE. BANDS OF TORRENTIAL RAIN ARE CONTINUING TO MOVE RAPIDLY ACROSS THE WEST FLORIDA PANHANDLE INTO ADJACENT SOUTH ALABAMA. THIS WILL ADD TO THE VERY HIGH RAINFALL TOTALS THAT HAVE OCCURRED SINCE THE STORM MADE LANDFALL OVER SOUTH MISSISSIPPI EARLY MONDAY MORNING.

RAINFALL TOTALS OVER THE PERIOD FROM SATURDAY THROUGH MONDAY INCLUDE:

...ALABAMA...

BAY MINNETTE (BALDWIN CO) 14.55 INCHES
ALABAMA PORT (MOBILE CO) 13.66 INCHES
MOBILE AIRPORT 12.20 INCHES
AXIS (MOBILE CO) 10.00 INCHES
CHATOM (WASHINGTON CO) 9.80 INCHES
SEMINOLE 9.43 INCHES
...FLORIDA...

MUNSON (SANTA ROSA CO) 25.06 INCHES
PENSACOLA AIRPORT (ESCAMBIA CO) 10.08 INCHES
NICEVILLE (OKALOOSA CO) 10.08 INCHES

...MISSISSIPPI...

LEAKESVILLE (GREENE CO) 8.29 INCHES

SATELLITE AND RADAR ESTIMATES INDICATE SOME LOCATIONS IN SOUTHEAST MISSISSIPPI...SOUTHWEST ALABAMA...AND WEST FLORIDA PANHANDLE HAVE RECEIVED OVER 30 INCHES OF RAIN SINCE EARLY SUNDAY MORNING.

AS A RESULT OF THE EXCESSIVE RAINFALL...THERE ARE FLOOD WATCHES IN EFFECT TODAY AND TONIGHT FOR LARGE PORTIONS OF SOUTH AND CENTRAL ALABAMA...THE WEST FLORIDA PANHANDLE...AND WEST AND SOUTHWEST GEORGIA. IN ADDITION...SINCE DECAYING TROPICAL SYSTEMS FREQUENTLY PRODUCE TORNADOES AFTER MAKING LANDFALL...A TORNADO WATCH IS IN EFFECT UNTIL 700 PM CDT FOR THE FLORIDA PANHANDLE...SOUTHWEST AND WEST CENTRAL GEORGIA...SOUTHEAST ALABAMA...AND THE NEARBY COASTAL WATERS.

THE NEXT STORM SUMMARY WILL BE ISSUED BY HPC AT 600 PM CDT.

MAUSSER/FORECAST OPERATIONS BRANCH

Example: Tropical Weather Discussion

AXNT20 KNHC 141112
TWDAT

TROPICAL WEATHER DISCUSSION
NWS TPC/NATIONAL HURRICANE CENTER MIAMI FL
805 AM EDT MON 14 APR 2003

TROPICAL WEATHER DISCUSSION FOR NORTH AMERICA...CENTRAL AMERICA...GULF OF MEXICO...CARIBBEAN SEA...AND ATLANTIC OCEAN TO THE AFRICAN COAST FROM THE EQUATOR TO 32N INCLUDING NORTHERN SECTIONS OF SOUTH AMERICA. THE FOLLOWING INFORMATION IS BASED ON SATELLITE IMAGERY...WEATHER OBSERVATIONS...RADAR... AND METEOROLOGICAL ANALYSIS.

BASED ON 0600 UTC SURFACE ANALYSIS AND SATELLITE IMAGERY THROUGH 1015 UTC.

SPECIAL FEATURES...
NONE.

TROPICAL WAVES/ITCZ...
AXIS OF ITCZ-RELATED CLOUDS/CONVECTION IS CENTERED ALONG 4N1W 2N15W 3N25W 1N35W 3N47W 2N51W. SCATTERED MODERATE CONVECTION FROM 1N-4N BETWEEN 7W-10W. ISOLATED MODERATE TO STRONG CONVECTION WITHIN 30 NM EITHER SIDE OF AXIS FROM 15W-35W.

MIDDLE/UPPER LEVEL SYNOPTIC FEATURES...

A MID/UPPER LEVEL LOW ALONG THE SE UNITED STATES COAST NEAR GEORGIA AND A SHORTWAVE TROUGH EXTENDING SEWD TO THE BAHAMAS REMAIN THE PRIMARY WEATHER MAKER. DIVERGENCE AHEAD OF THE SHORTWAVE TROUGH HAS INCREASED OVERNIGHT AS THE FEATURE LIFTS NEWD AND BECOMES NEGATIVELY TILTED PRODUCING SHOWERS/THUNDERSTORMS ALONG A SURFACE FRONTAL BOUNDARY FROM THE WINDWARD PASSAGE THROUGH TO 30N56W. MODERATE CONVECTION HAS DEVELOPED DURING THE LAST FEW HOURS IN THE VICINITY OF THE S BAHAMAS AS THE AFORMENTIONED SHORTWAVE TROUGH INTERACTS WITH THE ENTRANCE REGION OF A STRONG 70-120 KT UPPER JET...FROM THE BAHAMAS NEWD OVER THE ATLC E OF BERMUDA. THIS ACTIVITY SHOULD EXPAND NWD ALONG THE FRONTAL BOUNDARY DURING THE DAY AS THE SHORTWAVE/JET CONTINUE TO LIFT NEWD. TO THE WEST...MID/UPPER LEVEL RIDGING...CURRENTLY OVER E MEXICO AND THE CENTRAL UNITED STATES...CONTINUES TO EXPAND EWD OVER THE GLFMEX. CONFLUENT FLOW BETWEEN THE RIDGE AND SHORTWAVE TROUGH TO THE EAST IS PRODUCING A LARGE AREA OF MODERATE TO STRONG SUBSIDENCE AND DRY/TRANQUIL WEATHER OVER THE ENTIRE GLFMEX...NW CARIBBEAN...AND EXTREME W SUBTROPICAL ATLC W OF SHORTWAVE TROUGH....text continues....

Example: Aviation Tropical Cyclone Advisory

FKPZ21 KNHC 260215
TCAPZ1

TROPICAL DEPRESSION PATRICIA ICAO ADVISORY NUMBER 23
NWS TPC/NATIONAL HURRICANE CENTER MIAMI FL
0300Z SUN OCT 26 2003

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TC ADVISORY
DTG:                      20031026/0300Z
TCAC:                     KNHC
TC:                       PATRICIA
NR:                       023
PSN:                      N1612 W11454
MOV:                      NW 05KT
C:                        1008HPA
MAX WIND:                 025KT
FCST PSN + 12 HR:         261200 N1636 W11500
FCST MAX WIND + 12 HR:    020KT
FCST PSN + 18 HR:         261800 N1654 W11506
FCST MAX WIND + 18 HR:    020KT
FCST PSN + 24 HR:         270000 N1712 W11512
FCST MAX WIND + 24 HR:    020KT
NXT MSG:                  NO MSG EXP
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Example: Hurricane Local Statement

WTUS84 KCRP 151519
HLSCRP
TXZ230>234-241>247-151815-

HURRICANE LOCAL STATEMENT
NATIONAL WEATHER SERVICE CORPUS CHRISTI TX
1019 AM CDT TUE JUL 15 2003

...HURRICANE CLAUDETTE MOVING ONTO THE MIDDLE TEXAS COAST NEAR PORT O'CONNOR...
...A HURRICANE WARNING IS IN EFFECT FROM BAFFIN BAY TO HIGH ISLAND...

...AREAS AFFECTED...
THIS STATEMENT RECOMMENDS ACTIONS TO BE TAKEN BY RESIDENTS IN THE FOLLOWING COUNTIES OF ARANSAS...CALHOUN...KLEBERG...NUECES... REFUGIO...SAN PATRICIO...BEE...GOLIAD...LIVE OAK...MCMULLEN...JIM WELLS AND VICTORIA.

...WATCHES/WARNINGS...
A HURRICANE WARNING IS IN EFFECT FOR THE TEXAS COAST FROM BAFFIN BAY TO HIGH ISLAND. AN INLAND TROPICAL STORM WIND WARNING IS IN EFFECT FOR BEE...GOLIAD...LIVE OAK...JIM WELLS...MCMULLEN AND VICTORIA COUNTIES FOR TODAY. AN INLAND TROPICAL STORM WIND WATCH IS IN EFFECT FOR DUVAL AND LASALLE COUNTIES FOR TONIGHT. A FLASH FLOOD WATCH IS IN EFFECT FOR TODAY FOR THE COUNTIES OF ARANSAS...BEE...CALHOUN...GOLIAD...LIVE OAK...MCMULLEN...REFUGIO... SAN PATRICIO AND VICTORIA.

...STORM INFORMATION...
AT 9 AM CDT...THE CENTER OF HURRICANE CLAUDETTE WAS LOCATED NEAR LATITUDE 28.5 NORTH AND LONGITUDE 96.1 WEST...OR APPROXIMATELY 20 MILES EAST OF PORT O'CONNOR. MAXIMUM SUSTAINED WINDS ARE NEAR 80 MPH WITH HIGHER GUSTS. CLAUDETTE IS MOVING WEST-NORTHWEST NEAR 10 MPH. A CONTINUED MOVEMENT TOWARDS THE WEST-NORTHWEST IS EXPECTED TODAY. GIVEN THIS FORECAST TRACK...THE EYE OF CLAUDETTE IS EXPECTED TO MOVE ACROSS THE PORT OCONNOR TO PALACIOS AREA AROUND 11 AM. WEAKENING IS EXPECTED AFTER THE EYE OF CLAUDETTE MOVES INLAND.

...PRECAUTIONARY/PREPAREDNESS ACTIONS...
AS OF 1130 PM MONDAY EVENING...EMERGENCY MANAGEMENT OFFICIALS

RECOMMENDED EVACUATIONS OF RESIDENTS OF ARANSAS COUNTY. ALSO...EVACUATIONS HAVE BEEN RECOMMENDED FOR RESIDENTS AND NON-RESIDENTS OF PORT ARANSAS. NO OTHER EVACUATIONS HAVE BEEN REPORTED TO THE NATIONAL WEATHER SERVICE AT THIS TIME. RESIDENTS OF SOUTH TEXAS...ESPECIALLY THOSE WHO LIVE IN THE COASTAL COUNTIES FROM KLEBERG TO CALHOUN...SHOULD COMPLETE ALL NECESSARY ACTIONS TO PROTECT LIFE AND PROPERTY.

...STORM SURGE FLOOD AND STORM TIDE IMPACTS...
AT 9 AM CDT...TIDES WERE APPROXIMATELY 3.5 FEET ABOVE MEAN SEA LEVEL AT BOBHALL PIER...AND 2.5 FEET ABOVE MEAN SEA LEVEL AT PORT OCONNOR. AS CLAUDETTE MOVES ACROSS THE COASTLINE...TIDES WILL CONTINUE TO INCREASE...ESPECIALLY FROM ROCKPORT NORTHWARD.

TIDES ARE EXPECTED TO RISE TO BETWEEN 3 AND 4 FEET ABOVE MEAN SEA LEVEL SOUTH OF ROCKPORT...AND 5 TO 6 FEET ABOVE MEAN SEA LEVEL BETWEEN ROCKPORT AND PORT OCONNOR BY THIS AFTERNOON.

AT 5 FEET MSL...WATER WILL FLOOD MANY STREETS IN LAMAR...ROCKPORT...INGLESIDE...FULTON...ARANSAS PASS...PORT ARANSAS AND PORT OCONNOR. WATER WILL REACH 1/4 MILE INLAND TO THE SOUTHERN PART OF ROCKPORT. PORTIONS OF HIGHWAY 35 BETWEEN ARANSAS PASS AND ROCKPORT WILL BE UNDER 1 FOOT OF WATER. ROADS WEST OUT OF ROCKPORT WILL BE UNDER WATER. BEACH AND HARBOR FACILITIES WILL BE FLOODED AT PORT ARANSAS. AT 4 FEET MSL...THE JFK CAUSEWAY WILL HAVE AROUND 1 FOOT OF WATER OVER IT. THE T-HEADS WILL BE FLOODED. FLOODING IS LIKELY ALONG HIGHWAY 35 FROM ARANSAS PASS TO ROCKPORT. SOME FLOODING IS LIKELY ALONG WATERFRONT FACILITIES AND ROADS THAT ARE NEAR THE WATER ALONG MANY COASTAL COMMUNITIES.

AT 3 FEET MSL...BEACH ROADS WILL BE FLOODED ON PADRE AND MUSTANG ISLANDS. THE JFK CAUSEWAY WILL HAVE SOME WATER OVER IT BUT NOT ENOUGH TO CLOSE IT DOWN. HIGH TIDES AT PORT ARANSAS OCCURRED AT 745 AM THIS MORNING AND WILL OCCUR AGAIN AT 817 AM ON WEDNESDAY. HIGH TIDES AT PORT OCONNOR WILL BE AT 259 PM THIS AFTERNOON AND 400 PM ON WEDNESDAY.

...WIND IMPACTS...
AT 9 AM CDT...THE COAST GUARD REPORTED WINDS OF 30 TO 40 KNOTS FROM THE NORTHWEST AT PORT O'CONNOR. A MESONET SITE IN PORT OCONNOR REPORTED A WIND GUST AT 75 MPH AT 940 AM. WINDS ACROSS THE COASTAL WATERS FROM PORT O'CONNOR AND OUT TO 60 NAUTICAL MILES EAST OF PORT OCONNOR...HAVE INCREASED TO HURRICANE FORCE THIS MORNING.

WINDS OVER INLAND LOCATIONS FROM ROCKPORT TO VICTORIA ARE NORTH-NORTHWEST AROUND 25 TO 35 MPH. AS CLAUDETTE CONTINUES TO MOVE INLAND...WINDS WILL GRADUALLY INCREASE ACROSS THE ENTIRE AREA FROM EAST TO WEST.

TROPICAL STORM FORCE WINDS ARE EXPECTED TO SPREAD ACROSS THE REMAINDER OF THE COASTAL WATERS...PRIMARILY EAST OF PORT ARANSAS...THIS MORNING. WINDS GUSTING TO HURRICANE FORCE WILL MOVE INTO REFUGIO AND ARANSAS COUNTIES AROUND 11 AM CDT. THE TROPICAL STORM FORCE WINDS WILL ADVANCE SOUTHWEST DOWN THE COAST WITH TROPICAL STORM FORCE WINDS ENTERING THE COASTAL BEND NEAR CORPUS CHRISTI AROUND NOON. WIND GUSTS TO HURRICANE FORCE COULD OCCUR THIS AFTERNOON AND EVENING NEAR CORPUS CHRISTI AND REDFISH BAYS AND THE ADJACENT LAND AREAS.

...SEAS AND RIP CURRENTS...
AT 9 AM CDT...SEAS WERE AVERAGING AROUND 8 TO 10 FEET OUT TO AROUND20 NAUTICAL MILES...14 TO 18 FEET BEYOND 20 NAUTICAL MILES. AS CLAUDETTE MAKES LANDFALL...SEAS WILL INCREASE TO 12 TO 17 FEET OUT TO 20 NAUTICAL MILES...15 TO 20 FEET BEYOND 20 NAUTICAL MILES OFFSHORE THIS MORNING. THESE LARGE SEAS WILL CONTINUE TO PRODUCE VERY ROUGH SURF AND DANGEROUS RIP CURRENTS ACROSS ALL OF THE SOUTH TEXAS BEACHES. ENTERING THE SURF IS STRONGLY DISCOURAGED THROUGH AT LEAST WEDNESDAY.

...FLOOD IMPACTS...
HEAVY RAINFALL WILL ACCOMPANY CLAUDETTE LATER THIS MORNING INTO THIS EVENING. THE GREATEST POTENTIAL FOR HEAVY RAIN SHOULD BE THIS AFTERNOON THROUGH WEDNESDAY. TOTAL RAINFALL AMOUNTS OF 5 TO 8 INCHES WILL BE POSSIBLE MAINLY TO THE NORTH OF A ROCKPORT TO ENCINAL LINE...WITH 2 TO 4 INCHES POSSIBLE TO THE SOUTH OF THIS LINE. THESE RAINFALL AMOUNTS MAY NEED TO BE REVISED IF THE FORECAST TRACK CHANGES. THIS AMOUNT OF RAINFALL WILL HAVE THE POTENTIAL TO PRODUCE FLOODING OVER THE NORTHERN PORTIONS OF THE COASTAL BEND AND RIO GRANDE PLAINS AREA.

...NEXT UPDATE...
THE NEXT SCHEDULED STATEMENT WILL BE ISSUED AROUND 1 PM.

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Example: Use of tornado warning for extreme destructive winds (TOR)

WFUS52 KMLB 132250
TORMLB
FLC069-095-097-132345-

BULLETIN - EAS ACTIVATION REQUESTED
TORNADO WARNING
NATIONAL WEATHER SERVICE MELBOURNE FL
645 PM EDT FRI AUG 13 2004

THE NATIONAL WEATHER SERVICE IN MELBOURNE HAS ISSUED A

* TORNADO WARNING FOR...
SOUTHERN LAKE COUNTY
ORANGE COUNTY
NORTHWESTERN OSCEOLA COUNTY
IN EAST CENTRAL FLORIDA

* UNTIL 745 PM EDT

* AT 642 PM EDT...THE NATIONAL WEATHER SERVICE HAS ISSUED A TORNADO WARNING FOR DESTRUCTIVE WINDS OVER 100 MPH IN THE EYE WALL AND INNER RAIN BANDS OF HURRICANE CHARLEY. *(Note: the product was issued prior to any policy and was the event which brought about the new TOR policy. Since this issuance, the wind speed criteria has been raised to 100 knots or about 110 mph)*

* THE LEADING EDGE OF HURRICANE CHARLEYS DESTRUCTIVE WINDS IS EXPECTED TO MOVE INTO THE KISSIMMEE AND GREATER ORLANDO AREA BY 715 PM.

THE THREAT OF DESTRUCTIVE WINDS AND TORNADOES WILL LAST THROUGH 9 PM.

PEOPLE IN THE PATH OF THIS ADVANCING STORM ARE URGED TO QUICKLY PREPARE FOR ITS APPROACH. THIS IS A DANGEROUS SITUATION! ACT NOW.

IF YOU ARE IN THE PATH OF THIS STORM...THE SAFEST PLACE IS IN A STRONG BUILDING ON THE LOWEST FLOOR. MOVE TO AN INTERIOR ROOM SUCH AS A BATHROOM OR CLOSET. KEEP AWAY FROM WINDOWS. IF NECESSARY...GET UNDER A WORKBENCH OR OTHER PIECE OF STURDY FURNITURE. USE BLANKETS OR PILLOWS TO COVER YOUR BODY. ABANDON YOUR MOBILE HOME OR RV FOR MORE SUBSTANTIAL SHELTER.

LAT...LON 2792 8210 2779 8140 2856 8117 2868 8189

$$

Example: Short Term Forecast (NOWcast)

FPUS71 KMOB 192130
NOWMOB

SHORT TERM FORECAST
NATIONAL WEATHER SERVICE MOBILE AL
430 PM CDT SAT AUG 19 1995

ALZ051>064-MSZ067-075-076-078-079-192330-

.NOW...
...HURRICANE GARY WILL MOVE ACROSS BALDWIN AND MOBILE COUNTIES BY 530 PM... SUSTAINED WINDS ABOVE 80 MPH WITH HIGHER GUSTS AND TORRENTIAL RAINFALL CAN BE EXPECTED AS THE RAIN BAND MOVES ACROSS. THE RAIN BAND SHOULD WEAKEN SLIGHTLY AS IT MOVES ACROSS CLARKE...WASHINGTON...AND GEORGE COUNTIES BY 6 PM. BUT PEOPLE IN THESE COUNTIES SHOULD EXPECT WIND GUSTS TO NEAR HURRICANE FORCE AND EXTREMELY HEAVY RAINFALL.
&&

SCATTERED AREAS OF MODERATE TO HEAVY RAINFALL WILL CONTINUE ACROSS SOUTHERN ALABAMA AND MISSISSIPPI THROUGH 6 PM. BANDS OF STRONG STORMS WILL MOVE NORTHWESTWARD ACROSS THE AREA. EAST WINDS OF 30-40 MPH AND HEAVY RAIN WILL PERSIST WITH STRONGER WINDS AND HEAVIER RAINFALL NEAR THE RAIN BANDS. TEMPERATURES ACROSS THE REGION WILL REMAIN IN THE 70S.

Example: Inland Hurricane Warning

WWUS45 KHGX 101030
NPWHOU

URGENT - WEATHER MESSAGE
NATIONAL WEATHER SERVICE HOUSTON-GALVESTON TX
600 AM CDT FRI SEP 10 1995

...AN INLAND HURRICANE WARNING IN EFFECT FOR SOUTHEAST TEXAS...

HURRICANE FRED...LOCATED 60 MILES SOUTHEAST OF GALVESTON TX AT 6 AM CDT...IS MOVING TO THE NORTH NORTHWEST AT 10 MPH AND IS EXPECTED TO MAKE LANDFALL AROUND NOON CDT ON THE UPPER TEXAS COAST. FRED IS THEN FORECAST TO CONTINUE ON A NORTH NORTHWEST COURSE MOVING ACROSS HOUSTON AND REACHING THE SAN JACINTO NATIONAL FOREST BY LATE AFTERNOON. SUSTAINED WINDS OF 100 MPH WITH GUSTS TO 120 MPH SHOULD BEGIN SWEEPING ACROSS THE UPPER TEXAS COAST BY LATE MORNING.

TXZ177>179-197>199-210>212-102200-
WALKER-SAN JACINTO-POLK-WASHINGTON-GRIMES-MONTGOMERY-
COLORADO-AUSTIN-WALLER-

...INLAND HURRICANE WARNING...

WINDS ARE EXPECTED TO RAPIDLY INCREASE TO 50 TO 60 MPH BY 12 NOON AND 80 MPH WITH GUSTS TO 100 MPH BY MID AFTERNOON. 75 MPH WINDS WITH HIGHER GUSTS ARE LIKELY AS FAR INLAND AS HUNTSVILLE...NAVASOTA...AND LAKE LIVINGSTON BY LATE AFTERNOON.

BE PREPARED FOR NUMEROUS DOWNED TREES AND WIRES. DO NOT CROSS DOWNED WIRES...WHICH MAY STILL BE LIVE.

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TXZ226-227-235-213-200-102200-
WHARTON-FORT BEND-JACKSON-HARRIS-LIBERTY-

...INLAND HURRICANE WARNING...
WINDS FROM WHARTON TO HOUSTON AND LIBERTY ARE EXPECTED TO INCREASE TO 50 TO 60 MPH THIS MORNING AND 90 MPH WITH GUSTS TO NEAR 110 MPH BY MIDDAY...DECREASING TO 50 TO 60 MPH LATE THIS AFTERNOON.

FLYING DEBRIS WILL POSE A MAJOR THREAT TO ALL STRUCTURES IN THE WARNED AREA...ESPECIALLY GLASS FROM HIGH-RISE BUILDINGS IN DOWNTOWN HOUSTON. PEOPLE LIVING IN MOBILE HOMES AND THOSE CONCERNED ABOUT THE ABILITY OF THEIR HOMES TO WITHSTAND HURRICANE WINDS SHOULD MOVE TO A STRONG BUILDING OR SHELTER IMMEDIATELY. BE PREPARED FOR NUMEROUS DOWNED TREES AND WIRES. TAKE SHELTER IN SMALL INTERIOR ROOMS OR REINFORCED STRUCTURES.
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Example: Post-Tropical Cyclone Report

ACUS71 KNEW 032226
PSHNEW
POST-TROPICAL CYCLONE REPORT HURRICANE XENIA
NATIONAL WEATHER SERVICE NEW ORLEANS LA
500 PM CDT MON SEP 3 1992

A. HIGHEST WINDS...

NEW ORLEANS INTERNATIONAL AIRPORT...
1 - MINUTE 39 KNOTS FROM 150 DEGREES 0950 UTC AUG 26 1992
PEAK GUST 72 KNOTS FROM 020 DEGREES AT 0728 UTC AUG 26 1992
P92 AMOS LOCATED AT SALT POINT, ST. MARY PARISH 19.5N 91.3W
...ETC

B. LOWEST PRESSURE...

LOWEST PRESSURE NEW ORLEANS INTERNATIONAL AIRPORT - 960.1 MB AT
0805 UTC AUG 26 1992
...ETC

C. RAINFALL...

NEW ORLEANS INTERNATIONAL AIRPORT

STORM TOTAL	5.70 IN.	AUG 25-26 1992
1 HOUR TOTAL	0.89 IN.	0800-0900 UTC 26 AUG 1992

...ETC

D. STORM TIDES...

MARINA	4.28	2100 UTC AUG 26 1992
N END OF CAUSEWAY	4.94	1100 UTC AUG 26 1992

...ETC

E. BEACH EROSION...

LEVEL OF EROSION PRESENTLY UNKNOWN
...ETC

F. FLOODING...

STORM TIDE FLOODING TO THE ENTIRE LOUISIANA COAST FROM LAKE BORGNE WEST TO VERMILION BAY...ETC

G. TORNADOES...

F3 TORNADO FROM LA PLACE TO RESERVE IN ST JOHN THE BAPTIST PARISH...ETC

H. STORM EFFECTS...

TORNADO		2 DEAD	32 INJURED
HURRICANE	4 DEAD	UNKNOWN	2 MISSING

AN ESTIMATED ONE AND ONE QUARTER MILLION PEOPLE EVACUATED ACROSS SOUTHEAST AND SOUTH CENTRAL LOUISIANA...ETC

Appendix B

TROPICAL CYCLONE ASSESSMENT AND WARNING PRODUCT IDENTIFIERS

AREA	WMO	AWIPS
Caribbean	CA	#
North Atlantic and Caribbean	NT	AT
East Pacific	PZ	EP
Central Pacific	PA	CP
West Pacific	PW	WP
North Pacific	PN	#
West North Pacific	PQ	#
South Pacific	PS	#
Indian Ocean	IO	#
South Indian Ocean	XS	#

Issuing Office	WMO CCCC
WFO HFO/CPHC - Honolulu	PHFO
WFO Guam	PGUM
JTWC - Pearl Harbor	PGTW
NHC - Miami	KNHC
HPC - Camp Springs, Maryland	KWNH
NAVPACMETOCCEN - Naval Pacific Metr. And Oceanography Center - Pearl Harbor	PHNC
Offutt AFB	KGWC

PRODUCT TITLES	WMO HEADER	PRODUCT IDENTIFIER (NNNXXX)	NWWS BACKUP HEADERS
Tropical Weather Outlook			
Atlantic Basin	ABNT20 KNHC	TWOAT	NFDTWOAT
Eastern Pacific	ABPZ20 KNHC	TWOEP	NFDTWOEP
Central Pacific	ACPN50 PHFO	TWOCP	MIATWOCP
San Juan - Spanish	ACCA62 TJSJ	TWOSPN	MIATWOSPN
Tropical Weather Discussion			
Atlantic Basin	AXNT20 KNHC	TWDAT	NFDTWDAT
Eastern Pacific	AXPZ20 KNHC	TWDEP	NFDTWDEP

PRODUCT TITLES	WMO HEADER	PRODUCT IDENTIFIER (NNNXXX)	NWWS BACKUP HEADERS
Tropical/Subtropical Cyclone Public Advisory			
Atlantic Basin	WTNT31-35 KNHC	TCPAT1-5	NFDTCPAT1-5
San Juan - Spanish	WTCA41-45 TJSJ	TCPSP1-5	
Eastern Pacific	WTPZ31-35 KNHC	TCPEP1-5	NFDTCPEP1-5
Central Pacific	WTPA31-35 PHFO	TCPCP1-5	MIATCPCP1-5
Western Pacific	WTPQ31-35 PGUM	TCPPQ1-5	N/A
Public Advisory (formally Storm Summary)			
Conterminous US - HPC issued	WTNT31-35 KWNH	TCPAT1-5	
Tropical Cyclone Strike Probabilities			
Atlantic Basin Only	WTNT71-75 KNHC	SPFAT1-5	NFDSPFAT1-5
Tropical/Subtropical Cyclone Forecast/Advisory			
Atlantic Basin	WTNT21-25 KNHC	TCMAT1-5	NFDTCMAT1-5
Eastern Pacific	WTPZ21-25 KNHC	TCMEP1-5	NFDTCMEP1-5
Central Pacific	WTPA21-25 PHFO	TCMCP1-5	MIATCMCP1-5
Tropical Cyclone Discussion			
Atlantic Basin	WTNT41-45 KNHC	TCDAT1-5	NFDTCDAT1-5
Eastern Pacific	WTPZ41-45 KNHC	TCDEP1-5	NFDTCDEP1-5
Central Pacific	WTPA41-45 PHFO	TCDCP1-5	MIATCDCP1-5
Prognostic Reasoning of Warnings for NW Pacific	WDPN31-36 PGTW	N/A	N/A
Tropical Cyclone Position Estimate			
Atlantic Basin	WTNT51-55 KNHC	TCEAT1-5	NFDTCEAT
Eastern Pacific	WTPZ51-55 KNHC	TCEEP1-5	NFDTCEEP
Central Pacific	WTPA51-55 PHFO	TCECP1-5	MIATCECP
Western North Pacific	WTPQ51-55 PGUM	TCEPQ1-5	N/A
Tropical Cyclone Position and Intensity from Satellite Data			
NW Pacific	TPPN10 PGTW	N/A	N/A
SW Pacific	TPPS10 PGTW	N/A	N/A
S central Pacific 120W-160E	TXPS40 PHFO	TCSSP	N/A
N central Pacific 140W-180	TXPN40 PHFO	TCSCP	N/A

PRODUCT TITLES	WMO HEADER	PRODUCT IDENTIFIER (NNNXXX)	NWWS BACKUP HEADERS
N Indian Ocean	TPIO10 PGTW	N/A	N/A
S Indian Ocean	TPXS10 PGTW	N/A	N/A
NW Pacific	TPPN10 KGWC		
SW Pacific	TPPS10 KGWC		
NE Pacific	TPPZ1 KGWC		
North Indian Ocean	TPIO10 KGWC		
South Indian Ocean	TPXS10 KGWC		
Atlantic	TPNT KGWC		
Tropical Cyclone Formation Alert Message			
Issued by JTWC			
Northwest Pacific	WTPN21-25 PGTW	N/A	N/A
Southwest Pacific	WTPS21-25 PGTW	N/A	N/A
North Indian Ocean	WTIO21-25 PGTW	N/A	N/A
South Indian Ocean	WTXS21-25 PGTW	N/A	N/A
Issued by NAVPACMETOCCEN			
Southeast Pacific	WTPS21-25 PHNC	N/A	N/A
Tropical Cyclone Update			
Atlantic Basin	WTNT61-65 KNHC	TCUAT1-5	NFDTCUAT
Eastern Pacific	WTPZ61-65 KNHC	TCUEP1-5	NFDTCUEP
Central Pacific	WTPA61-65 PHFO	TCUCP1-5	MIATCUCP
Tropical Cyclone Warnings			
Northwest Pacific	WTPN31-35 PGTW	TCPWP1-5	N/A
Southwest Pacific	WTPS31-35 PGTW	N/A	N/A
North Indian Ocean	WTIO31-35 PGTW	N/A	N/A
South Indian Ocean	WTXS31-35 PGTW	N/A	N/A
Special Tropical Disturbance Statement			
Atlantic Basin	WONT41 KNHC	DSAAT	NFDDSAAT
Eastern Pacific	WOPZ41 KNHC	DSAEP	NFDDSAEP
Central Pacific	ACPA80 PHFO	DSACP	MIADSACP
Western Pacific	ABPW10 PGTW	N/A	N/A
Indian Ocean	ABIO10 PGTW	N/A	N/A
Tropical Weather Summary			
Atlantic Basin	ABNT30 KNHC	TWSAT	NFDTWSAT
Eastern Pacific	ABPZ30 KNHC	TWSEP	NFDTWSEP
Central Pacific	ACPN60 PHFO	TWSCP	MIATWSCP

PRODUCT TITLES HEADERS	WMO HEADER	PRODUCT IDENTIFIER (NNNXXX)	NWWS BACKUP
Satellite Interpretation Message			
Hawaiian Islands	ATHW40 PHFO	SIMHI	N/A
Satellite-Derived Rainfall			
Eastern Caribbean	TCCA21 KNHC	STDECA	N/A
Central Caribbean	TCCA22 KNHC	STDCCA	N/A
Western Caribbean	TCCA23 KNHC	STDWCA	N/A
Aircraft Reconnaissance Messages Reports-Atlantic Basin			
Routine Report (recco)	URNT10 KNHC	REPNT0	N/A
Tropical Cyclone Report	URNT11 KNHC	REPNT1	N/A
Vortex Data Message	URNT12 KNHC	REPNT2	N/A
Dropsonde Report	UZNT13 KNHC	REPNT3	N/A
Dropsonde Report	UZNT13 KWBC	REPNT3	N/A
Supplemental Vortex data Message	URNT14 KNHC	REPNT4	N/A
Airbourne Expendable Bathythermograph	SOVX81 KNHC	OCDXBT	
MinObs	URNT40 KWBC		
Aircraft Reconnaissance Messages-Pacific Basin			
Routine Report	URPN10 KNHC	REPPN0	N/A
Tropical Cyclone Report	URPN11 KNHC	REPPN1	N/A
Vortex Data Message	URPN12 KNHC	REPPN2	N/A
Dropsonde Report	UZPN13 KNHC	REPPN3	N/A
Dropsonde Report	UZPN13 KWBC	REPPN3	N/A
Supplemental Vortex data Message	URPN14 KNHC	REPPN4	N/A
Summer/Winter Reconnaissance Schedule [Atlantic/Pacific])	NOUS42 KNHC	REPRPD	N/A
Hurricane Local Statement			
Atlantic	WTUS(81-84) KCCC	HLSNNN	N/A
San Juan	WWCA31 TJSJ	HLSSJU	
San Juan (Spanish)	WWCA39 TJSJ	HLSSPN	
Central Pacific (All Hawaiian Islands)	WTHW80 PHFO	HLSHFO	N/A
Western Pacific (Guam)	WTPQ81-85 PGUM	HLSPQ1-5	N/A

PRODUCT TITLES HEADERS	WMO HEADER		PRODUCT IDENTIFIER (NNNXXX)	NWWS BACKUP
South Pacific				
(Pago Pago, American Samoa)	WTZS81-85 NSTU		HLSZS(1-5)	
Tropical Cyclone Objective Guidance Products				
Atlantic Basin	WHXX01 KMIA		CHGHUR	N/A
Pacific Basin	WHXX01 KWBC		CHGE77	N/A
Atlantic Basin	WHXX04 KWBC		CHGQLM	N/A
Aviation Tropical Cyclone Advisory Message				
Atlantic Basin	FKNT21-25 KNHC			
East Pacific	FKPZ21-25 KNHC			
Central Pacific	FKPA21-25 PHFO			
Tropical Cyclone Summary - Fixes				
South Central Pacific 120W - 160E	TXPS40	PHFO	TCSSP	
North Central Pacific 140W - 180	TXPN40	PHFO	TCSCP	

N/A indicates currently none assigned.